THE
BRITISH PHARMACOPŒIA

HONI SOIT QUI MAL Y PENSE
DIEU ET MON DROIT

BY AUTHORITY

1898

From the

GENERAL MEDICAL COUNCIL

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1898

General Medical Council

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BRITISH PHARMACOPŒIA

PUBLISHED UNDER THE DIRECTION OF

THE GENERAL COUNCIL OF
MEDICAL EDUCATION AND REGISTRATION
OF THE UNITED KINGDOM

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THE GENERAL COUNCIL
OF
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PREFACE

TO THE

BRITISH PHARMACOPŒIA, 1898.

By the Medical Act of 1858, section 54, it is enacted that 'the General Council shall cause to be published under their direction a Book containing a list of medicines and compounds, and the manner of preparing them, together with the true weights and measures by which they are to be prepared and mixed, and containing such other matter and things relating thereto as the General Council shall think fit, to be called "The British Pharmacopœia;" and the General Council shall cause to be altered, amended, and republished, such Pharmacopœia as often as they shall deem it necessary.'

By a subsequent Act, the 25th and 26th Victoria, cap. 91, 1862, which recites among other things that different Pharmacopœias have hitherto been in use in England, Scotland, and Ireland, and that the Pharmacopœia to be published by the General Council is intended to supersede the above-mentioned Pharmacopœias, it is enacted that 'the British Pharmacopœia, when published, shall for all purposes be deemed to be substituted throughout Great Britain and Ireland for the several above-mentioned Pharmacopœias; and any Act of Parliament, Order in Council, or custom relating to any such last-mentioned Pharmacopœias shall be deemed, after the publication of the *British* Pharmacopœia, to refer to such Pharmacopœia.'

In compliance with and under the sanction and authority of these Acts of Parliament, Committees appointed by the Council, in 1858, reduced to one standard the processes and descriptions of the Pharmacopœias of London, Edinburgh, and Dublin, and produced, in 1864, the first British Pharmacopœia. A second was published in 1867, and an Addendum in 1874. A third was prepared in 1885, and an Addendum in 1890. The present is therefore the fourth British Pharmacopœia.

The Council has always desired, in the British Pharmacopœia, 'to afford to the members of the Medical Profession and those engaged in the preparation of medicines throughout the British Empire one uniform standard and guide, whereby the nature and composition of substances to be used in medicine may be ascertained and determined.'[1] For the better accomplishment of this object, with reference not only to the wants of the United Kingdom, but also to those of more distant portions of the Empire, the Council has, with the aid of Her Majesty's Privy Council, sought assistance from various Medical and Pharmaceutical Bodies in India and the Colonies, and has incorporated many of the recommendations of these

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[1] Preface to the British Pharmacopœia, 1867.

Bodies in the text of the present edition. A small number of alternative substances or preparations, the official recognition of which has been desired for local use, have been sanctioned for this purpose by their introduction into an Appendix. These steps may be regarded as preparatory to the ultimate production of a complete Imperial Pharmacopœia. The Council has in contemplation the early preparation of an Addendum, in which medicinal plants and other substances suggested for inclusion by Indian and Colonial Authorities will be dealt with more fully than has now been possible. It confidently anticipates the co-operation of all Medical and Pharmaceutical Bodies in Her Majesty's Dominions for the eventual realisation of the Imperial project.

No figures or detailed descriptions of plants yielding official substances are given in the text of the present edition; but references will be found, as heretofore, to the best authorities for these purposes. The histological characters of the parts of plants officially recognised have, however, been described whenever the information appeared to be required for the attainment of accuracy.

In former editions, after the paragraphs on a particular official article, the names of the preparations, if any, into which it entered, and their strengths, were appended; these are now given, in all important cases, in the Index.

The names of official substances are usually printed either with capital initial letters or in italics, those with capitals being the names of substances defined in the text, those in italics being the names of reagents defined in an Appendix.

It has been thought desirable to adopt certain well-established changes in chemical nomenclature, though not in such a manner as to occasion inconvenience to prescribers and dispensers. No general alteration, therefore, has been made in the Latin titles, but the English titles of chemical substances have in many instances been modified. These English titles, therefore, are not, as a rule, literal translations of the Latin ones. The substitution in chemistry of the term *hydroxide* for *hydrate* has been regarded as sufficiently established for the former to be generally adopted in the Pharmacopœia. Of synonyms, only the more important have been inserted.

With regard to the Weights and Measures of the British Pharmacopœia, the following remarks are still applicable:

'No alteration has been made in the Imperial Weights and Measures which in the edition of 1864 were directed to be used in the preparation of medicines. The grain weight, established by law in this country, is well known and well defined. It has been in use from a very remote period, and forms a convenient unit for estimating the weight of many medicines. The avoirdupois ounce and pound, being the weights practically used in the sale of medicines and generally in commercial transactions, were adopted in the edition of 1864, and are still retained. . . . It must be admitted that the absence in the present system of any denomination of weight between the grain and the avoirdupois ounce of 437·5 grains, and the fact that the ounce is not a simple multiple of the grain, are grave defects; but it has not been thought desirable to make any change in this respect at present, especially as no practical inconvenience appears to be experienced *in preparing* by means of these weights the medicines ordered in the Pharmacopœia. It is strongly urged upon all medical men to avoid the use of the terms ounce and pound with reference to any other than the avoirdupois or Imperial Standard weight; but it is still optional with the physician *in prescribing* to use the symbols ℈ (scruple) and ʒ (drachm), the former representing 20 and the latter 60 grains. . . . In the measurement of liquids the Imperial measure is used for the higher denominations, and the fluid ounce and its subdivisions into fluid drachms and minims for the lower denominations of volume.'[1]

The alternative employment, in the British Pharmacopœias of 1867 and 1885, of metric weights and measures in the paragraphs relating to volumetric analysis, is now extended to every official paragraph which makes reference to the usual Imperial weights and measures; but the metric system alone is employed in all paragraphs relating to analysis, whether gravimetric or volumetric.

During the period of transition from the Imperial to the metric system a certain amount of confusion is likely to occur. It has been somewhat difficult, in the course of a single paragraph, to embody formulæ involving definite quantities of materials, and to give precise

[1] Preface to the British Pharmacopœia, 1867.

directions for their employment, in two different systems of weights and measures; and those who use the Pharmacopœia are requested to avoid the assumption that Imperial and metric quantities thus placed in juxtaposition are necessarily equivalent to one another. They are approximately equivalent in paragraphs on crude drugs; they are not equivalent in paragraphs which describe the manufacture of galenical preparations. Except for wholly insignificant fractional differences, a preparation made according to either system will contain the same proportions of ingredients; but, as a matter of course, the two systems cannot both be used in the same operation.

It is to be regretted, from a theoretical point of view, that the graduation and in certain cases the employment by analysts of Imperial and metric vessels for purposes of measurement, and the adjustment and in most cases the employment of vessels for determining specific gravities, are not conducted at one and the same temperature. But the practical advantage of rendering these temperatures identical would be insignificant, while the resulting confusion would be serious. As regards such operations, therefore, the Pharmacopœia remains in harmony with the procedures hitherto customary amongst the physicists, chemists, and pharmacists of the Empire: that is to say, it continues to use Imperial measuring vessels graduated at 62° F. (16·7°C.), and the official names of Imperial capacity-units as defined at that temperature, together with the official names of metric capacity-units as defined at 39·2° F. (4° C.); while it employs metric measures and volumetric vessels graduated at 60° F. (15·5°C.). Specific gravity bottles are also to be adjusted at 60° F. (15·5°C.) ; the figures indicating specific gravities being quotients obtained by dividing, in each instance, the weight of the solid or liquid by the weight of an equal bulk of water, both taken at 60° F. (15·5° C.).

'When a *water-bath* is directed to be used, it is to be understood that this term refers to an apparatus by means of which water or its vapour, at a temperature not exceeding 212° F. (100° C.), is applied to the outer surface of a vessel containing the substance to be heated, which substance may thus be subjected to a heat near to, but necessarily below, that of 212° F. (100° C.).'[1]

The paragraphs in former editions which were more or less descriptive of the sources or modes of preparation of official chemical substances have been abbreviated as far as the requirements of the Medical Act of 1858 will permit, the literature of chemistry and chemical technology being now so accessible as to render such descriptions to some extent superfluous ; but descriptions of the characters and tests by which the substances may be identified, and by which their freedom from impurity may be determined, have been extended and increased in number.

The qualitative tests by which the basylous and acidulous radicals of ordinary salts are recognised, and by which common impurities are detected, instead of being many times repeated in the text, as in previous editions of the Pharmacopœia, are given once for all

[1] Preface to the British Pharmacopœia, 1867.

in an Appendix, the text simply stating the names of the radicals or other matters which should be present or absent respectively. Special tests, or tests rarely employed, are still given in the text. It follows that the appended list of tests is not exhaustive, having only been constructed to meet official requirements. Nor are manipulative details set forth at length, either as regards the preparation of a substance for testing, or as regards the selection or application of the tests, the pharmacist being assumed to possess full knowledge on these and all similar points.

In stating the solubility of chemical substances in water or other neutral liquid, attention has been paid to the general requirements of medical practitioners, and to the usual temperatures that prevail where medicines are stored and used. 'Ordinary temperatures' are those between 50° and 70° F. (10° and 21·1° C.). In stating the relation of chemical substances to acid, alkaline, or saline liquids, the term 'solubility' is necessarily sometimes used in a general sense, irrespective of more or less obvious concomitant chemical changes.

Constitutional rather than empirical formulæ are given for organic chemical substances; but extended structural or graphic formulæ, which would often occupy the space of several lines of print, have, as a rule, been excluded.

The atomic weights adopted in the British Pharmacopœia are those approved by the authorities now generally followed in Europe. In quantitative testing, the specified amounts of solid or liquid substances are intended only as proportions indicating official standards of purity; they are rarely prescribed as the weights or bulks to be actually used in the operations. The amount in cubic centimetres of a volumetric solution which will react with a stated amount of a solid or liquid substance, instead of being extended to the two or three places of decimals which theory would require, is given only to the degree of accuracy which may easily be observed on an ordinary burette. In short, the procedure in these and other chemical operations is now left to the skill and judgment of workers who are assumed to be duly trained.

As regards alcoholic liquids, *ethyl hydroxide* itself (C_2H_5OH) is always referred to under that name alone. *Absolute alcohol* is the name given to a mixture of ethyl hydroxide with not more than one per cent. of water. *Alcohol* (90 *per cent.*) is the name given to a mixture containing in one hundred volumes ninety of ethyl hydroxide and ten of water. It is almost identical in strength with the *Rectified Spirit* of the British Pharmacopœia of 1885, and the name *Spiritus Rectificatus* is retained for it alone. The name 'spirit of wine' is not employed. In referring to a few manufacturing processes in which alcoholic liquids of varying strength are used, the term 'ethylic alcohol' has been adopted.

The spirituous solutions of essential oils described in the British Pharmacopœia of 1885 were in two cases termed 'Essences,' and in seven cases 'Spirits.' Now all are termed 'Spirits.' They are in nearly every case made of the strength of one volume of the oil to nine volumes of the 'alcohol (90 per cent.).' Medical practitioners and pharmacists will note the resulting increase in the proportion of the oil in most of these preparations.

In dealing with the Tinctures two chief objects have been kept in view. First, to arrange for greater uniformity of dose: to this end the proportions of the essential ingredients to the menstrua have been so adjusted that the dose of each of the more potent tinctures shall be, as far as possible, from five to fifteen minims, and the dose of the less potent from half a fluid drachm to one fluid drachm. Secondly, to select for each tincture the menstruum that is best adapted to extract the active constituents of the drug or drugs used in its preparation. The simplification of dosage has required a few of the tinctures to be reduced in strength, as regards active principles, while several have been increased. Important alterations of either kind are mentioned in paragraphs printed in small type. The inquiry as to the best menstrua has led to the adoption of ethylic alcohol, that is, ethyl hydroxide, of five several degrees of dilution, namely, alcohol (90 per cent.), alcohol (70 per cent.), alcohol (60 per cent.), alcohol (45 per cent.), and alcohol (20 per cent.). The name *proof spirit* has been abandoned.

The mode of providing for the constant alkaloidal strength of the Tinctures of Cinchona, Nux Vomica, and Opium, which was introduced in 1885, has been to some extent improved. It has been found practicable to convert the assay, of 1885, for mixed alkaloids in the Tincture of Nux Vomica, into an assay for strychnine. In the Tinctures of Belladonna and Cinchona a definite proportion of 'total alkaloid' is required. The directions for the preparation of a tincture have, in nearly every case, been much shortened, a general description of the processes of maceration and percolation being given once for all in an Appendix.

The number of Infusions prepared with one part of drug to twenty of water has been increased. In most cases the time during which the drug is to be infused has been shortened.

Many experiments have been made with the object of preparing the three Decoctions and the twenty-two Infusions of the Pharmacopœia in highly concentrated states; and compounds have been obtained resembling the liquids which manufacturers have termed 'concentrated decoctions and infusions.' But some of these compounds underwent deterioration on keeping, or were wanting in flavour and aroma, and were accordingly rejected. Nine of the more successful have been admitted into the Pharmacopœia as *Liquores Concentrati*, and the products of their dilution with water may be prescribed by practitioners in place of the corresponding official Infusions. One concentrated decoction has been included. The diluted *Liquores* differ in minor respects from freshly prepared Decoctions or Infusions, and contain a small quantity of ethylic alcohol.

Most of the Liquid Extracts are of such a strength that one fluid ounce represents one ounce (or one hundred cubic centimetres represent one hundred grammes) of the drug employed. The Liquid Extract of Belladonna, used as the basis of other preparations of the drug, and the Liquid Extract of Ipecacuanha, the basis of the Vinegar and of the Wine of Ipecacuanha, contain definite proportions of total alkaloids. The Liquid Extract of Nux Vomica, from which the solid Extract is now prepared, contains a definite proportion of strychnine.

The doses mentioned in the Pharmacopœia are intended to represent the average range, in ordinary cases, for adults. They are meant for general guidance, but are not authoritatively enjoined by the Council. The medical practitioner must act on his own responsibility as to the doses of any therapeutic agents which he may administer.

Some of the changes with regard to dosage deserve special mention, because the composition of the official preparations concerned has been altered in order to allow of greater uniformity. Thus, it has been found possible not only, as already mentioned, to arrange that each of the Tinctures (with the single exception of Tincture of Iodine) shall have a dose of either from five to fifteen minims or from half a fluid drachm to one fluid drachm; but also to reduce considerably the great variations formerly existing in the doses of Extracts, and the majority of these will now be found to have a dose of either from a quarter of a grain to one grain or from two grains to eight grains. For certain drugs which may, with different objects, be administered either in a single dose or in repeated doses, it has been thought desirable to indicate the difference of quantity which may be necessitated by the two modes of employment.

Different degrees of coarseness or fineness of the powders of drugs are distinguished by numbers, such as No. 20 or No. 60, which indicate the number of parallel wires of ordinary thickness, contained within a linear inch, in either transverse direction, of the sieves employed by pharmacists.

It has not been thought desirable to describe, in the Pharmacopœia, various pharmaceutical devices which have been introduced in recent years for the more easy administration of medicines. When so directed by the practitioner, the drugs of the Pharmacopœia may be dispensed in such non-official forms as capsules, cachets, granules, and the like; but the drugs themselves, in all such cases, must respond to the official characters and tests.

Some pains have been taken to increase the usefulness of the Index.

In selecting additions to the Pharmacopœia, and in deciding on the omission of articles contained in the third edition, important aid has been rendered by the following Authorities :—

The Royal College of Physicians of London.
The Apothecaries' Society of London.
The University of Oxford.
The University of Cambridge.
The University of Durham.
The Victoria University.
The Royal College of Physicians of Edinburgh.
The Royal College of Surgeons of Edinburgh.
The Faculty of Physicians and Surgeons of Glasgow.
The University of Edinburgh.
The University of Glasgow.
The University of Aberdeen.
The Royal College of Physicians of Ireland.
The Royal College of Surgeons in Ireland.
The Apothecaries' Hall of Ireland.
The University of Dublin.

Respecting the omission of articles contained in the edition of 1885, the Council has also been aided by several independent inquiries regarding the frequency with which the various official preparations have been prescribed.

In the better adaptation of the Pharmacopœia to the requirements of India and the Colonies, the Council has had the valuable help of Medical and Pharmaceutical Authorities in Canada, Hong Kong, India, Jamaica, New South Wales, Queensland, Tasmania, and Victoria. Communications from the Bahamas, Barbados, Bermuda, British Honduras, the Cape of Good Hope, Ceylon, Cyprus, Malta, Natal, St. Helena, Sierra Leone, South Australia, Western Australia, and Zululand, have also been received.

The Council has made constant use of important practical researches which have been carried on by British pharmacists.

With regard to the present edition of the Pharmacopœia, assistance of great value has been rendered by a Committee of the Pharmaceutical Society of Great Britain, consisting of the following members :—

Mr. Walter Hills, *President*.
Mr. Newsholme, *Vice-President*.
Mr. M. Carteighe.
Inglis Clark, D.Sc.
Mr. W. Gowen Cross.
Mr. Charles Ekin.
Mr. John Harrison.
Mr. Joseph Ince.
Mr. N. H. Martin.
Mr. W. Martindale.
Mr. Charles Umney.
Mr. H. G. Greenish, *Secretary*.

The Council has further to acknowledge the labours of gentlemen who have given highly valuable assistance as Referees : in Chemistry, Dr. T. E. Thorpe, F.R.S., Dr. William A. Tilden, F.R.S., and Dr. J. Emerson Reynolds, F.R.S.; in Botany, Mr. W. T.

Thiselton-Dyer, F.R.S., and Mr. E. Morell Holmes; in Pharmacology and Therapeutics, Dr. T. Lauder Brunton, F.R.S., Dr. Walter G. Smith, and Dr. Ralph Stockman.

The Pharmacopœia has been edited by Dr. John Attfield, F.R.S., who has been, since 1885, Annual Reporter to the Council on the Progress of Pharmacy, and who has advised it on all matters relating to pharmaceutical chemistry. The Council is much indebted to him both for his scientific and for his literary services.

The general supervision of the preparation of the work has been entrusted by the Medical Council to the following Committee:

Sir RICHARD QUAIN, Bart., President, *Chairman.*

Dr. Atthill.
Mr. Brudenell Carter.
Sir Dyce Duckworth.
Dr. Leech.
Dr. MacAlister.
Dr. McVail.
Mr. Tichborne.
Sir John Batty Tuke.

Dr. Nestor Tirard has acted as Secretary to the Committee, and in that capacity has greatly facilitated its labours.

Office of the General Medical Council,
299 Oxford Street, London, W.
February 21, 1898.

Articles and Preparations included in the British Pharmacopœia of 1898, which were not in that of 1885, nor in the 'Additions' of 1890.

Araroba
Aurantii Cortex Recens
Benzol. (In Appendix, 1885)
Bismuthi Salicylas
Caffeinæ Citras Effervescens
Caoutchouc
Carbonis Bisulphidum
Cocaina
Codeinæ Phosphas
Extractum Belladonnæ Liquidum
Extractum Ipecacuanhæ Liquidum
Extractum Jaborandi Liquidum
Extractum Nucis Vomicæ Liquidum
Extractum Strophanthi
Glycerinum Acidi Borici
Glycerinum Pepsini
Hydrargyri Oleas
Hyoscinæ Hydrobromidum
Hyoscyaminæ Sulphas
Infusum Scoparii
Kaolinum
Lamellæ Homatropinæ
Liquor Calumbæ Concentratus
Liquor Caoutchouc
Liquor Chiratæ Concentratus
Liquor Cuspariæ Concentratus
Liquor Ethyl Nitritis
Liquor Hamamelidis
Liquor Hydrogenii Peroxidi
Liquor Krameriæ Concentratus
Liquor Morphinæ Tartratis
Liquor Pancreatis
Liquor Picis Carbonis
Liquor Quassiæ Concentratus
Liquor Rhei Concentratus
Liquor Sarsæ Compositus Concentratus
Liquor Senegæ Concentratus
Liquor Sennæ Concentratus
Liquor Serpentariæ Concentratus
Liquor Thyroidei
Lithii Citras Effervescens
Morphinæ Tartras
Naphthol
Oleum Pini
Oleum Rosæ
Paraffinum Liquidum
Physostigminæ Sulphas
Pilula Quininæ Sulphatis
Pix Carbonis Præparata
Pruni Virginianæ Cortex
Quillaiæ Cortex
Quininæ Hydrochloridum Acidum
Salol
Spiritus Anisi
Strychninæ Hydrochloridum
Suppositoria Acidi Carbolici
Suppositoria Belladonnæ
Syrupus Aromaticus
Syrupus Calcii Lactophosphatis
Syrupus Cascaræ Aromaticus
Syrupus Codeinæ
Syrupus Ferri Phosphatis cum Quinina et Strychnina
Syrupus Glucosi
Syrupus Pruni Virginianæ
Terebenum
Thyroideum Siccum
Tinctura Ergotæ Ammoniata

Tinctura Pruni Virginianæ
Tinctura Quillaiæ
Trochiscus Acidi Carbolici
Trochiscus Eucalypti Gummi
Trochiscus Guaiaci Resinæ
Trochiscus Krameriæ
Trochiscus Krameriæ et Cocainæ
Unguentum Aquæ Rosæ
Unguentum Capsici
Unguentum Cocainæ
Unguentum Hydrargyri Oleatis
Unguentum Hydrargyri Oxidi Flavi
Unguentum Paraffini

Articles and Preparations included in the British Pharmacopœia of 1885, or in the 'Additions' of 1890, but omitted in the British Pharmacopœia of 1898.

Acetum
Acidum Lacticum Dilutum
Acidum Meconicum
Aconiti Folia
Alcohol Amylicum
Ammonii Nitras
Anisi Stellati Fructus
Aqua[1]
Argentum Purificatum
Aurantii Fructus
Beberinæ Sulphas
Belæ Fructus
Bismuthi Citras
Bismuthi et Ammonii Citras
Bismuthum
Bismuthum Purificatum
Calamina Præparata
Canellæ Cortex
Carbo Animalis
Carbo Animalis Purificatus
Cataplasma Carbonis
Cataplasma Conii
Cataplasma Fermenti
Cataplasma Lini
Cataplasma Sinapis
Cataplasma Sodæ Chlorinatæ
Cerevisiæ Fermentum
Cetraria
Charta Epispastica
Cinchonæ Cortex (Cinchonæ Rubræ Cortex is retained)
Cinchonidinæ Sulphas
Cinchoninæ Sulphas
Confectio Opii
Confectio Rosæ Caninæ
Confectio Scammonii
Confectio Terebinthinæ
Creta
Cupri Nitras
Decoctum Cetrariæ
Decoctum Cinchonæ
Decoctum Hordei
Decoctum Papaveris
Decoctum Pareiræ
Decoctum Quercûs
Decoctum Sarsæ
Decoctum Sarsæ Compositum
Decoctum Scoparii
Decoctum Taraxaci
Ecballii Fructus
Elemi
Emplastrum Ferri
Emplastrum Galbani
Emplastrum Saponis Fuscum
Enema Aloes
Enema Asafœtidæ
Enema Magnesii Sulphatis
Enema Opii
Enema Terebinthinæ
Essentia Anisi
Essentia Menthæ Piperitæ
Extractum Aconiti

[1] Alluded to under 'Aqua Anethi' and 'Aqua Destillata.'

Extractum Aloes Socotrinæ
Extractum Belæ Liquidum
Extractum Calumbæ
Extractum Colchici Aceticum
Extractum Conii
Extractum Gelsemii Alcoholicum
Extractum Hæmatoxyli
Extractum Jaborandi
Extractum Lactucæ
Extractum Lupuli
Extractum Mezerei Æthereum
Extractum Papaveris
Extractum Pareiræ
Extractum Quassiæ
Extractum Rhamni Frangulæ
Extractum Rhamni Frangulæ Liquidum
Farina Tritici
Ferri Peroxidum Hydratum
Ferri Sulphas Granulata
Glycerinum Acidi Gallici
Gutta Percha
Hordeum Decorticatum
Hydrargyri Persulphas
Infusum Anthemidis
Infusum Catechu
Infusum Cusso
Infusum Jaborandi
Infusum Lini
Infusum Maticæ
Infusum Valerianæ
Kamala
Lac
Lactuca
Laricis Cortex
Liquor Ammonii Acetatis Fortior
Liquor Ammonii Citratis Fortior
Liquor Antimonii Chloridi
Liquor Calcii Chloridi
Liquor Ferri Acetatis Fortior
Liquor Ferri Dialysatus
Liquor Gutta Percha
Liquor Iodi
Liquor Lithiæ Effervescens
Liquor Magnesii Citratis
Liquor Morphinæ Bimeconatis
Liquor Morphinæ Sulphatis
Liquor Potassæ Effervescens
Liquor Sodæ
Liquor Sodæ Effervescens
Manna
Marmor Album [1]
Mastiche
Maticæ Folia
Mel
Mica Panis
Mistura Ferri Aromatica
Mistura Scammonii
Mori Succus
Morphinæ Sulphas
Mucilago Amyli
Nectandræ Cortex
Oleatum Hydrargyri
Oleatum Zinci
Oleo-resina Cubebæ
Oleum Myristicæ Expressum
Oleum Pini Sylvestris
Oleum Rutæ
Oleum Sabinæ
Os Ustum
Ovi Albumen [2]
Ovi Vitellus [2]
Physostigmina
Pilula Conii Composita
Pilula Ferri Carbonatis
Pilula Ferri Iodidi
Plumbi Nitras
Potassii Cyanidum
Potassii Ferrocyanidum
Quercûs Cortex
Rhamni Frangulæ Cortex
Rosæ Caninæ Fructus
Rosæ Centifoliæ Petala
Sabadilla
Sabinæ Cacumina

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[1] See 'Calcium Carbonate' in Appendix I.
[2] See 'Albumen in Appendix I.

Santonica
Sodii Nitras
Sodii Valerianas
Spiritus Tenuior
Suppositoria Acidi Carbolici cum Sapone
Suppositoria Acidi Tannici cum Sapone
Suppositoria Hydrargyri
Suppositoria Morphinæ cum Sapone
Syrupus Ferri Subchloridi
Syrupus Mori
Syrupus Papaveris
Tabaci Folia
Theriaca
Tinctura Aurantii (Cort. Sicc.)
Tinctura Chloroformi Composita
Tinctura Ergotæ
Tinctura Ferri Acetatis
Tinctura Gallæ
Tinctura Laricis
Tinctura Lobeliæ
Tinctura Sabinæ
Tinctura Valerianæ
Tinctura Veratri Viridis
Tinctura Zingiberis Fortior
Trochisci Opii
Unguentum Antimonii Tartarati
Unguentum Calaminæ
Unguentum Elemi
Unguentum Potassæ Sulphuratæ
Unguentum Sabinæ
Unguentum Simplex
Unguentum Terebinthinæ
Uvæ
Vapor Acidi Hydrocyanici
Vapor Chlori
Vapor Coninæ
Vapor Creasoti
Vapor Iodi
Vapor Olei Pini Sylvestris
Veratri Viridis Rhizoma
Vinum Aloes
Vinum Opii
Vinum Rhei

Articles and Preparations the Names of which have been Altered.

Former Names, 1885 or 1890.	Present Names, 1898.
Adeps Præparatus	Adeps
Æther Purus	Æther Purificatus
Alcohol Ethylicum	Alcohol Absolutum
Aloin	Aloinum
Apomorphinæ Hydrochloras	Apomorphinæ Hydrochloridum
Argenti et Potassii Nitras	Argenti Nitras Mitigatus
Asafœtida	Asafetida
Aurantii Cortex	Aurantii Cortex Siccatus
Cascarillæ Cortex	Cascarilla
Coca	Cocæ Folia
Cocainæ Hydrochloras	Cocainæ Hydrochloridum
Creasotum	Creosotum
Cubeba	Cubebæ Fructus
Decoctum Granati Radicis	Decoctum Granati Corticis
Ergotinum	Extractum Ergotæ
Extractum Belladonnæ	Extractum Belladonnæ Viride
Extractum Hyoscyami	Extractum Hyoscyami Viride

Former Names, 1885 or 1890.	Present Names, 1898.
Ferri Arsenias	Ferri Arsenas
Gelsemium	Gelsemii Radix
Granati Radicis Cortex . .	Granati Cortex
Homatropinæ Hydrobromas .	Homatropinæ Hydrobromidum
Injectio Ergotini Hypodermica .	Injectio Ergotæ Hypodermica
Ipecacuanha	Ipecacuanhæ Radix
Jaborandi	Jaborandi Folia
Limonis Succus	Succus Limonis
Lini Farina	Linum Contusum
Lini Semina	Linum
Linimentum Camphoræ Compositum	Linimentum Camphoræ Ammoniatum
Linimentum Iodi	Liquor Iodi Fortis
Linimentum Sinapis Compositum	Linimentum Sinapis
Liquor Ammoniæ Fortior . .	Liquor Ammoniæ Fortis
Liquor Cocainæ Hydrochloratis .	Injectio Cocainæ Hypodermica
Liquor Ferri Perchloridi Fortior .	Liquor Ferri Perchloridi Fortis
Liquor Morphinæ Hydrochloratis	Liquor Morphinæ Hydrochloridi
Liquor Plumbi Subacetatis . .	Liquor Plumbi Subacetatis Fortis
Liquor Sodii Arseniatis . .	Liquor Sodii Arsenatis
Liquor Strychninæ Hydrochloratis	Liquor Strychninæ Hydrochloridi
Mistura Creasoti	Mistura Creosoti
Morphinæ Hydrochloras . .	Morphinæ Hydrochloridum
Oleum Sinapis	Oleum Sinapis Volatile
Pepsin	Pepsinum
Pilula Asafœtidæ Composita .	Pilula Galbani Composita
Pyroxylin	Pyroxylinum
Quininæ Hydrochloras . .	Quininæ Hydrochloridum
Rhamni Purshiani Cortex . .	Cascara Sagrada
Sodii Arsenias	Sodii Arsenas
Spiritus Ammoniæ Fœtidus .	Spiritus Ammoniæ Fetidus
Strophanthus	Strophanthi Semina
Syrupus Rosæ Gallicæ . .	Syrupus Rosæ
Tabellæ Nitroglycerini . .	Tabellæ Trinitrini
Tinctura Aurantii Recentis . .	Tinctura Aurantii
Tinctura Chloroformi et Morphinæ	Tinctura Chloroformi et Morphinæ Composita
Tinctura Rhei	Tinctura Rhei Composita
Tinctura Sennæ	Tinctura Sennæ Composita
Toughened Nitrate of Silver .	Argenti Nitras Induratus
Trochisci Bismuthi . . .	Trochiscus Bismuthi Compositus
Trochisci (var.)	Trochiscus (var.)
Unguentum Creasoti . . .	Unguentum Creosoti

Articles and Preparations of the British Pharmacopœia of 1885, or of the ‘Additions’ of 1890, the Composition of which has been altered.

(Some minor alterations are not included.)

Acetum Ipecacuanhæ
Aqua Camphoræ
Confectio Sulphuris
Emplastrum Belladonnæ
Emplastrum Calefaciens
Emplastrum Picis
Emplastrum Resinæ
Emplastrum Saponis
Extractum Ergotæ (Ergotin)
Extractum Euonymi Siccum
Extractum Nucis Vomicæ
Extractum Physostigmatis
Extractum Sarsæ Liquidum
Glycerinum Boracis
Injectio Apomorphinæ Hypodermica
Injectio Ergotæ (Ergotini) Hypodermica
Injectio Morphinæ Hypodermica
Linimentum Ammoniæ
Linimentum Saponis
Linimentum Sinapis Compositum
Liquor Atropinæ Sulphatis
Liquor Hydrargyri Perchloridi
Lotio Hydrargyri Nigra
Mistura Ammoniaci
Mistura Creasoti
Mistura Cretæ
Mistura Guaiaci
Mistura Olei Ricini
Mistura Sennæ Composita
Pilula Aloes et Ferri
Pilula Aloes et Myrrhæ
Pilula Asafœtidæ (Galbani) Composita
Pilula Cambogiæ Composita
Pilula Ferri
Pilula Hydrargyri Subchloridi Composita
Pilula Ipecacuanhæ cum Scilla
Pilula Phosphori
Pilula Plumbi cum Opio
Pilula Rhei Composita
Pilula Saponis Composita
Pilula Scillæ Composita
Pulvis Cretæ Aromaticus
Pulvis Cretæ Aromaticus cum Opio
Syrupus Limonis
Tinctura Chloroformi et Morphinæ
Tinctura Rhei
Trochisci Bismuthi
Unguentum Creasoti
Unguentum Plumbi Acetatis
Unguentum Plumbi Carbonatis
Unguentum Plumbi Iodidi
Unguentum Resinæ
Unguentum Zinci Oleati
Vinum Ipecacuanhæ
Vinum Quininæ

Extractum Aloes Barbadensis is now used, in place of Extractum Aloes Socotrinæ, in Decoctum Aloes Compositum and in Extractum Colocynthidis Compositum.

The bases of Lozenges are altered.

The bases of the Ointments are in most cases altered.

PREPARATIONS OF THE BRITISH PHARMACOPŒIA OF 1885, OR OF THE 'ADDITIONS' OF 1890, THE STRENGTHS OF WHICH HAVE BEEN ALTERED.

(*Some minor alterations are not included.*)

Aqua Chloroformi
Decoctum Granati Corticis (Radicis)
Emplastrum Menthol
Extractum Belladonnæ Alcoholicum
Extractum Nucis Vomicæ
Extractum Opii Liquidum
Glycerinum Tragacanthæ
Infusum Caryophylli
Infusum Cascarillæ
Infusum Chiratæ
Infusum Ergotæ
Infusum Rhei
Infusum Serpentariæ
Injectio Apomorphinæ Hypodermica
Injectio Morphinæ Hypodermica
Linimentum Sinapis
Linimentum Terebinthinæ
Liquor Epispasticus
Pilula Phosphori
Spiritus Cajuputi
Spiritus Cinnamomi
Spiritus Juniperi
Spiritus Lavandulæ
Spiritus Menthæ Piperitæ
Spiritus Myristicæ
Spiritus Rosmarini
Suppositoria Morphinæ
Syrupus Ferri Iodidi
Syrupus Zingiberis
Tinctura Aconiti
Tinctura Asafœtidæ
Tinctura Belladonnæ
Tinctura Buchu
Tinctura Cascarillæ
Tinctura Catechu
Tinctura Chloroformi et Morphinæ
Tinctura Cimicifugæ
Tinctura Cinchonæ
Tinctura Cinchonæ Composita
Tinctura Cinnamomi
Tinctura Cocci
Tinctura Colchici Seminum
Tinctura Conii
Tinctura Cubebæ
Tinctura Gelsemii
Tinctura Gentianæ Composita
Tinctura Hyoscyami
Tinctura Jaborandi
Tinctura Jalapæ
Tinctura Krameriæ
Tinctura Limonis
Tinctura Lobeliæ Ætherea
Tinctura Lupuli
Tinctura Myrrhæ
Tinctura Nucis Vomicæ
Tinctura Podophylli
Tinctura Quassiæ
Tinctura Quininæ
Tinctura Quininæ Ammoniata
Tinctura Scillæ
Tinctura Senegæ
Tinctura Sennæ Composita
Tinctura Serpentariæ
Tinctura Stramonii
Tinctura Strophanthi
Tinctura Sumbul
Tinctura Tolutana
Tinctura Valerianæ Ammoniata
Tinctura Zingiberis
Trochisci Bismuthi
Trochisci Potassii Chloratis
Trochisci Sodii Bicarbonatis
Unguentum Acidi Borici
Unguentum Acidi Carbolici
Unguentum Acidi Salicylici

Unguentum Aconitinæ
Unguentum Atropinæ
Unguentum Belladonnæ
Unguentum Cantharidis
Unguentum Creasoti
Unguentum Eucalypti
Unguentum Gallæ
Unguentum Gallæ cum Opio
Unguentum Hydrargyri Compositum
Unguentum Hydrargyri Nitratis Dilutum
Unguentum Hydrargyri Oxidi Rubri
Unguentum Hydrargyri Subchloridi
Unguentum Plumbi Acetatis
Unguentum Plumbi Carbonatis
Unguentum Plumbi Iodidi
Unguentum Staphisagriæ
Unguentum Sulphuris
Unguentum Sulphuris Iodidi
Unguentum Veratrinæ

ARTICLES TRANSFERRED FROM THE TEXT TO AN APPENDIX.

Names in the Text, 1885.	Names in an Appendix, 1898.
Alcohol Amylicum	Amylic Alcohol
Bromum	Bromine
Calcii Sulphas	Calcium Sulphate
Cuprum	Copper
Liquor Chlori	Solution of Chlorine
Manganesii Oxidum Nigrum	Manganese Peroxide
Mucilago Amyli	Mucilage of Starch
Potassii Ferrocyanidum	Potassium Ferrocyanide
Soda Caustica	Sodium Hydroxide
Zincum	Zinc
Zincum Granulatum	

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THE
BRITISH PHARMACOPŒIA.

The names of substances defined in the text are printed with capital initial letters; those defined in an Appendix are printed in italics.

ACACIÆ GUMMI.
Gum Acacia.

A gummy exudation from the stem and branches of Acacia Senegal, *Willd.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 94], and of other species of Acacia, *Willd.*

Characters and Tests.—In rounded or ovoid tears, or masses, of various sizes; or in more or less angular fragments with glistening surfaces; nearly colourless, often with a yellowish tint. The tears are opaque from numerous minute external fissures, and very brittle; the fractured surfaces are vitreous in appearance. Taste bland and mucilaginous; nearly inodorous; insoluble in *alcohol* (90 per cent.), but entirely soluble in *water*, forming a translucent viscid solution which feebly reddens *litmus*. When dissolved in an equal weight of *water*, the solution should neither form a glairy mucilage nor, after admixture with more *water*, should it yield a gummy deposit on standing. The aqueous solution forms with *solution of lead subacetate* an opaque, and with *solution of borax* a more or less translucent, white jelly; it gives no precipitate with *solution of lead acetate*; is not coloured blue or brown by a small quantity of *solution of iodine* (absence of starch or of ordinary 'dextrin' of commerce) nor bluish-black by *test-solution of ferric chloride* (absence of tannic acid); and does not give a red precipitate when boiled with *solution of potassio-cupric tartrate* (absence of certain sugars). Gum Acacia should not yield more than 4 per cent. of ash.

ACETANILIDUM.

Acetanilide.[1]

Synonym.—Phenyl-acetamide.

Acetanilide, $CH_3{\cdot}CO{\cdot}NH{\cdot}C_6H_5$, may be obtained by the interaction of glacial acetic acid and aniline.

Characters and Tests.—In colourless, inodorous, glistening, lamellar crystals, having a slightly pungent taste. Melting point, when dry, 236·5° F. (113·5° C.). It is soluble in 200 parts of cold or 18 parts of boiling *water*, and in 4 parts of *alcohol* (90 per cent.), freely soluble in *ether*, *benzol*, and *chloroform*. On boiling with *test-solution of ferric chloride* a reddish-brown colour is produced, and this is almost entirely discharged by *hydrochloric acid*. If Acetanilide be heated with *solution of potassium hydroxide* until the odour of aniline is given off, and the liquid be then warmed with a few drops of *chloroform*, the unpleasant and penetrating odour of phenyl-isonitrile (isocyanide) is developed; and an aqueous solution mixed with *solution of bromine* gives a yellowish-white precipitate (distinctions from phenacetin). Heated with free access of air it burns, leaving no residue. With *sulphuric acid* or with cold *nitric acid* it forms a colourless solution. A cold saturated aqueous solution does not affect *solution of litmus* (absence of free acid), and is not affected by *test-solution of ferric chloride* (absence of acetone, phenazone, and salts of aniline).

Dose.—1 to 3 grains.

ACETUM CANTHARIDIS.

Vinegar of Cantharides.

	IMPERIAL	METRIC
Cantharides, bruised	2 ounces	100 grammes
Glacial Acetic Acid and Distilled Water	mixed in equal volumes, a sufficient quantity.	

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[1] Acetanilide is commonly known as 'antifebrin.'

Macerate the Cantharides in eighteen fluid ounces (or nine hundred cubic centimetres) of the mixture of Glacial Acetic Acid and Distilled Water for twenty-four hours; transfer to a percolator; when the liquid ceases to pass, pour sufficient of the menstruum in successive portions over the contents of the percolator to produce one pint (or one thousand cubic centimetres) of the Vinegar of Cantharides.

ACETUM IPECACUANHÆ.

Vinegar of Ipecacuanha.

	IMPERIAL	METRIC
Liquid Extract of Ipecacuanha	1 fl. ounce .	50 cubic centimetres
Alcohol (90 per cent.) . .	2 fl. ounces	100 cubic centimetres
Diluted Acetic Acid . .	17 fl. ounces	850 cubic centimetres

Mix; filter, and if necessary add sufficient Diluted Acetic Acid to produce one pint (or one thousand cubic centimetres) of the Vinegar of Ipecacuanha.

Dose.—10 to 30 minims.

ACETUM SCILLÆ.

Vinegar of Squill.

	IMPERIAL	METRIC
Squill, bruised	2½ ounces .	125 grammes
Diluted Acetic Acid	1 pint .	1000 cubic centimetres or a sufficient quantity

Exhaust the Squill by the process of maceration as directed for Tinctures. The resulting Vinegar of Squill should measure one pint (or one thousand cubic centimetres).

Dose.—10 to 30 minims.

ACIDUM ACETICUM.

Acetic Acid.

Acetic acid is a product of the destructive distillation of wood, and of the oxidation of ethylic alcohol. 100 parts by weight should contain 33 parts of hydrogen acetate, $CH_3{\cdot}COOH$, and 67 parts of water.

Characters and Tests.—A clear, colourless liquid with a pungent odour, affording, when neutralised with alkali, the reactions characteristic of acetates. Specific gravity 1·044. Each gramme should require for neutralisation 5·5 cubic centimetres of the *volumetric solution of sodium hydroxide.* It should yield no residue on evaporation, and no characteristic reaction with the tests for lead, copper, arsenium, chlorides, nitrates, sulphates, and sulphites. It should not darken in colour when exactly neutralised with *solution of ammonia* and warmed with *solution of silver nitrate* (absence of formates). 2 cubic centimetres of Acetic Acid diluted with 10 cubic centimetres of *water* should not immediately discharge the colour of one drop of *solution of potassium permanganate,* but at the end of half a minute the mixture should retain a shade of crimson (limit of empyreumatic matter).

ACIDUM ACETICUM DILUTUM.

Diluted Acetic Acid.

100 parts by weight should contain 4·27 parts of hydrogen acetate, $CH_3{\cdot}COOH$.

	IMPERIAL	METRIC
Acetic Acid . .	2½ fl. ounces (more exactly, 2·49) or 1137 grains .	124·7 cubic centimetres or 130·2 grammes.
Distilled Water . .	a sufficient quantity.	

Dilute the Acetic Acid with sufficient Distilled Water to form one pint (or one thousand cubic centimetres) of Diluted Acetic Acid.

Characters and Tests.—Specific gravity 1·006. Each gramme should require for neutralisation 7·1 cubic centimetres of a *decinormal volumetric solution of sodium hydroxide.* It must be free from the impurities indicated under 'Acidum Aceticum.'

Dose.—$\frac{1}{2}$ to 2 fluid drachms.

ACIDUM ACETICUM GLACIALE.

Glacial Acetic Acid.

100 parts by weight should contain 99 parts of hydrogen acetate, $CH_3{\cdot}COOH$.

Characters and Tests.—At summer temperatures it is a clear, colourless liquid with a very pungent odour. It affords, when neutralised, the reactions characteristic of acetates. It crystallises when sufficiently cooled, and remains crystalline until the temperature rises above 60° F. (15·5° C.). Specific gravity 1·058, and this is increased by the addition of 10 per cent. of *water* (distinction from a diluted acid of 46 per cent., which has the same specific gravity). Each gramme diluted with 50 cubic centimetres of *water* should require for neutralisation 16·6 cubic centimetres of the *volumetric solution of sodium hydroxide.* It must be free from the impurities indicated under 'Acidum Aceticum.'

ACIDUM ARSENIOSUM.

Arsenious Anhydride.

Synonyms.—Arsenic; White Arsenic; Arsenious Acid.

Arsenious Anhydride, or arsenious oxide, As_4O_6, is obtained by roasting certain arsenical ores.

Characters and Tests.—Occurs as a heavy white powder, or in masses which usually present a stratified appearance caused by the presence, in separate layers, of the crystalline and opaque and of the amorphous and vitreous allotropic modifications of arsenious anhydride. Slowly heated in a test-tube it yields a sublimate of minute, brilliant, transparent octahedral crystals. It is soluble in 100 parts of cold *water*, in 10 parts of boiling *water*, and in 5 parts of *glycerin*; it is moderately soluble in solutions of alkaline hydroxides and carbonates, in *hydrochloric acid,* and in mixtures of that acid and *water.* Its aqueous solution, which is odourless, tasteless, and faintly acid to *litmus,* gives with *solution of silver ammonio-nitrate* a canary-yellow precipitate readily dissolved by *solution of ammonia* and by *nitric acid.* Sprinkled on ignited charcoal, it emits an alliaceous odour. It is volatilised at 400° F. (204·4° C.). 0·25 gramme, dissolved quickly in boiling *water* with five times its weight of *sodium bicarbonate,* should, after the cooled solution is well shaken with three successive drops of *hydrochloric acid,* discharge the colour of 50·8 to 50·9 cubic centimetres of the *volumetric solution of iodine.* It should yield no characteristic reaction with the tests for lead, cadmium, antimony, tin, or sulphides. It should dissolve completely in *solution of ammonia,* and the resulting liquid when diluted with an equal volume of *water* and acidulated with *hydrochloric acid* should not have a yellow colour (absence of arsenious sulphide).

Dose.—$\frac{1}{60}$ to $\frac{1}{15}$ grain.

ACIDUM BENZOICUM.

Benzoic Acid.

Benzoic Acid, $C_6H_5 \cdot COOH$, is obtained from benzoin by sublimation. It may also be obtained from toluene, from hippuric acid, and from other organic compounds.

Characters and Tests.—In light feathery crystalline plates and needles, which are flexible, nearly colourless, and odourless when quite pure; but when obtained from benzoin possess an agreeable aromatic odour, due to traces of other substances. It is soluble in 400 parts of cold or 17 parts of boiling *water,* in its own weight of *absolute alcohol,* in 3 parts of *alcohol* (90 per cent.), in 2·5 of *ether,* in 7 of *chloroform,* and in the fixed and volatile oils; also in solutions of the alkalis and of *calcium hydroxide,* forming benzoates, and it is precipitated from these on the addition of *hydrochloric acid* unless the solutions are very dilute. It volatilises in the vapour of water. Pure benzoic acid melts at 250·5° F. (121·4° C.) and boils at 480·2° F. (249° C.); but when obtained from benzoin, it melts at about 248° F. (120° C.), forming a yellowish liquid which becomes brownish but not red as the temperature rises (absence of hippuric acid), and boils at about 462° F. (238·9° C.). When heated to the last-named temperature, it passes off in vapour which burns with a bright-yellow flame, and leaves only a slight residue. When 0·5 gramme is heated in a closed crucible with twice its weight of *calcium carbonate*, the mass dissolved in *diluted nitric acid*, and *solution of silver nitrate* added, only the slightest cloudiness should result (absence of chlorobenzoic acid). It should yield no characteristic reaction with the tests for oxalates. It should not develop the odour of benzaldehyde when warmed with its own weight of *potassium permanganate* and ten times its weight of *diluted sulphuric acid* (absence of cinnamic acid). 0·2 gramme suspended in 10 cubic centimetres of *water* should not immediately discharge the colour of two drops of *solution of potassium permanganate* (absence of hippuric and cinnamic acids).

Dose.—5 to 15 grains.

ACIDUM BORICUM.

Boric Acid.

Synonyms.—Boracic Acid; Hydrogen Borate.

A weak acid having the formula H_3BO_3. Obtained by the interaction of sulphuric acid and borax, and by the purification of native boric acid.

Characters and Tests.—Colourless, pearly, lamellar crystals or irregular masses of crystals; unctuous to the touch; taste feebly acid and bitter, leaving a sweetish after-flavour in the mouth. Soluble in 30 parts of cold *water*, in 4 of *glycerin*, in 30 of *alcohol* (90 per cent.), and in 3 of boiling *water*. It changes the colour of *litmus* to wine-red in the cold, a hot saturated solution giving a bright red colour; *turmeric paper* moistened with an aqueous solution, even when slightly acidulated with *hydrochloric acid*, becomes brownish-red on gently drying, and this colour changes to a greenish-black if *solution of potassium hydroxide* be added. The solution in *alcohol* burns with a flame tinged with green, especially when the solution is acidulated with *sulphuric acid*. Boric Acid liquefies when warmed, and on careful heating loses 43·6 per cent. of its weight, the product solidifying, on cooling, to a brittle glass-like mass. It should yield no characteristic reaction with the tests for lead or copper, and only the slightest reactions with the tests for iron, calcium, magnesium, potassium, sodium, ammonium, chlorides, and sulphates.

Dose.—5 to 15 grains.

ACIDUM CARBOLICUM.
Phenol.

Phenol, C_6H_5OH, commonly termed carbolic acid, is obtained from coal-tar oil by fractional distillation.

Characters and Tests.—In small, colourless, deliquescent crystals having a peculiar odour and sweetish, pungent, taste; it has a caustic action on the skin and mucous membrane; freely soluble in *alcohol* (90 per cent.), *ether*, *benzol*, *chloroform*, *carbon bisulphide*, *glycerin*, in the fixed and volatile oils, and in solutions of alkalis. Exposed to moist air it may acquire a pinkish tinge. At 60° F. (15·5° C.), 100 parts of Phenol should be liquefied by the addition of 10 parts of *water*, should form a clear liquid with 30 to 40 of *water*, and should be completely dissolved by 1,200 of *water*. The aqueous solution should be clear and colourless. Melting point not lower than 102° F. (38·8° C.); boiling point not higher than 359·6° F. (182° C.). Specific gravity at the melting point 1·060 to 1·066. Phenol does not immediately redden *blue litmus* paper. It does not rotate the plane of a ray of polarised light. It coagulates *solution of albumen* and *collodion*, and liquefies Camphor. *Test-solution of ferric chloride* strikes a deep purple colour, and excess of *solution of bromine* gives a white precipitate, with a cold aqueous solution of Phenol. An aqueous solution of Phenol mixed with one-fourth of its volume of *solution of ammonia*, and then with a few drops of *solution of chlorinated soda*, becomes blue after a time or immediately on gently heating. One volume of Phenol, liquefied by the addition of 10 per cent. of *water*, forms with 1 volume of *glycerin* a clear liquid which is not rendered turbid by the addition of 3 volumes of *water* (absence of cresol).

Dose.—1 to 3 grains.

ACIDUM CARBOLICUM LIQUEFACTUM.

Liquefied Phenol.

Phenol to which distilled water has been added in the proportion of ten parts by weight of the water to one hundred parts by weight of the Phenol. It is commonly termed liquefied carbolic acid.

Characters.—A liquid at first colourless, but usually acquiring a pinkish hue. It forms a clear solution on the addition of 18 to 27 per cent. of *water* at 60° F. (15·5° C.). Specific gravity 1·064 to 1·069 at 60° F. (15·5° C.). Boiling point gradually rising to a temperature not higher than 359·6° F. (182° C.).

Dose.—1 to 3 minims.

ACIDUM CHROMICUM.

Chromic Anhydride.

Chromic Anhydride, CrO_3, commonly termed chromic acid, is produced by the interaction of sulphuric acid and potassium bichromate.

Characters and Tests.—In crimson acicular crystals, very deliquescent, inodorous, acting corrosively on the skin. It is very soluble in *water* and in *ether*. At a temperature of 377·6° F. (192° C.) it melts, and at a still higher temperature decomposes, with the evolution of oxygen gas, leaving a greenish-black residue, which should yield little or nothing to *water* (limit of sulphates). Warmed with *hydrochloric acid*, chlorine is evolved. Mixed with cold *alcohol* (90 per cent.), aldehyde is produced, and a green residue remains. If placed in contact with relatively small proportions of either *alcohol* (90 per cent.), *ether*, *glycerin*, or some other organic matters, sudden combustion or explosion may ensue. 1 gramme dissolved in 50 cubic centimetres of *water* and acidulated with *hydrochloric acid* should afford only a slight opalescence with *solution of barium chloride* (absence of more than traces of sulphates).

ACIDUM CITRICUM.

Citric Acid.

Citric Acid, or hydrogen citrate, $C_3H_4 \cdot OH \cdot (COOH)_3, H_2O$, may be obtained from the juice of the fruit of various species of Citrus.

Characters and Tests.—In large colourless prisms belonging to the trimetric system. Soluble in three-fourths of its weight of cold or in half its weight of boiling *water*, somewhat less soluble in *alcohol* (90 per cent.), and soluble to a slight extent in *ether*. The aqueous solution made by dissolving 35 grains of the Acid in 1 ounce (or 1 gramme in 12½ cubic centimetres) of *water* resembles, in acidity, an average specimen of Lemon Juice. Citric Acid, when neutralised, yields the reactions characteristic of citrates. Each gramme dissolved in *water* should require for neutralisation 14·3 cubic centimetres of the *volumetric solution of sodium hydroxide*. It should yield no characteristic reaction with the tests for copper or iron, and only very slight reactions with those for calcium or sulphates. Its solutions should not contain any metallic particles. 10 grammes dissolved in 20 cubic centimetres of *water*, neutralised with *solution of ammonia*, and sufficient of a saturated aqueous solution of *hydrogen sulphide* added to produce 100 cubic centimetres of liquid, no darkening of colour should result after 5 minutes (absence of lead). One drop of *solution of ferrous sulphate*, then a few drops of *solution of hydrogen peroxide*, and finally an excess of *solution of potassium hydroxide*, added to an aqueous solution of the Acid, no purple or even light violet coloration should result (absence of tartaric acid). Or 1 gramme placed in a test-tube with 5 cubic centimetres of *solution of ammonium molybdate*, 2 or 3 drops of *solution of hydrogen peroxide* being added, should not afford a bluish coloration after the tube has been shaken and placed in boiling water for ten minutes (absence of tartaric acid; but the presence of any metallic particles gives rise to a similar coloration). On incineration with free access of air, it should not yield more than 0·05 per cent. of ash.

Dose.—5 to 20 grains.

ACIDUM GALLICUM.

Gallic Acid.

A trihydroxybenzoic acid, $C_6H_2(OH)_3COOH,H_2O$. It may be prepared by the action of diluted sulphuric acid on tannic acid.

Characters and Tests.—Acicular prisms or silky needles, sometimes nearly white, but generally of a slight brownish tinge; odourless, of a faintly acid taste. Soluble in 100 parts of cold or in 3 parts of boiling *water*, in 5 parts of *alcohol* (90 per cent.), 40 parts of *ether*, or 12 parts of *glycerin*. It yields a bluish-black precipitate with *test-solution of ferric chloride*. The crystalline Acid loses 9·5 per cent. of its weight when dried at 212° F. (100° C.). It should yield no characteristic reaction with the tests for sulphates. Its aqueous solution is not precipitated by *solutions of isinglass, albumen*, alkaloids, or *tartarated antimony* (absence of tannic acid). It leaves no residue when burned with free access of air (freedom from mineral matter).

Dose.—5 to 15 grains.

ACIDUM HYDROBROMICUM DILUTUM.

Diluted Hydrobromic Acid.

An aqueous solution containing 10 per cent. by weight of hydrogen bromide, HBr. It may be obtained by the distillation of potassium bromide with concentrated phosphoric acid.

Characters and Tests.—A clear, colourless, inodorous liquid, yielding, when neutralised, the reactions characteristic of bromides. Specific gravity 1·077. 4 grammes should require for neutralisation 5 (more exactly 4·98) cubic centimetres of the *volumetric solution of sodium hydroxide*, or, for complete precipitation, 50 (more exactly 49·8) cubic centimetres of the *volumetric solution of silver nitrate*. It should yield no characteristic reaction with the tests for arsenium, barium, chlorides, phosphates, sulphates, or sulphites. It should yield no residue on evaporation to dryness.

Dose.—15 to 60 minims.

ACIDUM HYDROCHLORICUM.

Hydrochloric Acid.

A liquid containing 31·79 per cent. by weight of hydrogen chloride, HCl, and 68·21 per cent. of water. Obtained by dissolving in water the gas produced by the interaction of sulphuric acid and sodium chloride.

Characters and Tests.—A colourless and strongly acid liquid, emitting white pungent fumes. It yields, when neutralised, the reactions characteristic of chlorides. Specific gravity 1·160. Each gramme, diluted with *water*, should require for neutralisation 8·7 cubic centimetres of the *volumetric solution of sodium hydroxide*, and 0·1 gramme should require, for complete precipitation, 8·7 cubic centimetres of the *volumetric solution of silver nitrate.* It leaves no residue on evaporation, and when diluted with *water* should yield no characteristic reaction with the tests for arsenium, lead, copper, iron, aluminium, bromides, iodides, sulphates, or sulphites. Diluted with much *water* and *solution of potassium iodide* added, no blue colour is produced on the addition of *mucilage of starch* (absence of free chlorine).

ACIDUM HYDROCHLORICUM DILUTUM.

Diluted Hydrochloric Acid.

100 parts by weight should contain 10·58 parts of hydrogen chloride, HCl.

	IMPERIAL	METRIC
Hydrochloric Acid	6 fl. ounces (more exactly, 6·035) or 3063 grains	301·8 cubic centimetres or 350·1 grammes
Distilled Water	a sufficient quantity	

Introduce the Hydrochloric Acid into a glass flask, the capacity of which to a mark on the neck is one pint (or one thousand cubic centimetres); add Distilled Water until the mixture, at 60° F. (15·5° C.), after it has been shaken, measures one pint (or one thousand cubic centimetres).

Tests.—It yields, when neutralised, the reactions characteristic of chlorides. Specific gravity 1·052. Each gramme should require for neutralisation 2·9 cubic centimetres of the *volumetric solution of sodium hydroxide.* It should be free from the impurities mentioned under 'Acidum Hydrochloricum.'

Dose.—5 to 20 minims.

ACIDUM HYDROCYANICUM DILUTUM.

Diluted Hydrocyanic Acid.

An aqueous solution containing 2 per cent. by weight of hydrogen cyanide, HCN. It may be prepared by the interaction of diluted sulphuric acid and potassium ferrocyanide. Diluted Hydrocyanic Acid should be stored in a dark place, in small stoppered bottles of amber-coloured glass; the stoppers being tied over with impervious tissue and the bottles inverted.

Characters and Tests.—A colourless liquid with a peculiar odour. Specific gravity 0·997. It only slightly reddens *litmus.* It yields, when neutralised, the reactions characteristic of cyanides. Each gramme of Diluted Hydrocyanic Acid, rendered alkaline by the addition of *solution of sodium hydroxide,* and maintained faintly alkaline throughout the operation, should require the addition of 3·7 cubic centimetres of the *volumetric solution of silver nitrate* before a permanent precipitate begins to form. 5 cubic centimetres evaporated in a platinum dish should leave no residue. It should yield only the slightest reactions with the tests for sulphates or chlorides.

Dose.—2 to 6 minims.

ACIDUM LACTICUM.

Lactic Acid.

A liquid containing 75 per cent. of hydrogen lactate, $CH_3 \cdot CHOH \cdot COOH$, with 25 per cent. of water. It may be produced by the fermentation of lactose.

Characters and Tests.—A colourless, syrupy, hygroscopic liquid, inodorous, with a very sour taste, and acid reaction on *litmus.* Miscible in all proportions with *water, alcohol* (90 per cent.), and *ether*; nearly insoluble in *chloroform.* Specific gravity 1·21. When heated to above 300° F. (148·9° C.) it vaporises, and on the temperature approaching 350° F. (176·7° C.) inflammable gases are given off; on ignition these burn with a flame which is blue at first, but becomes more luminous as the temperature rises. When nearly all the Acid is dissipated the residue becomes charred, and on continuing the heat not more than 0·5 per cent. of solid matter remains. Warmed with *potassium permanganate* it gives the odour of aldehyde. Each gramme should require for neutralisation 8·3 cubic centimetres of the *volumetric solution of sodium hydroxide.* It should yield no characteristic reaction with the tests for lead, copper, arsenium, iron, aluminium, chlorides, citrates, oxalates, phosphates, sulphates, or tartrates. The Acid when diluted with *water* gives no precipitate with *solution of copper sulphate* (absence of sarco-lactic acid), and none, or only the slightest traces, with excess of *solution of potassio-cupric tartrate,* even after prolonged boiling (absence of more than traces of grape, cane, and milk sugar). The mixture obtained by heating Lactic Acid with excess of *zinc carbonate* and evaporating to dryness should not, when exhausted with *absolute alcohol* and the latter evaporated, yield any sweet residue (absence of glycerin). Gently warmed, there should be no rancid odour (absence of fatty acids). Carefully poured upon an equal volume of *sulphuric acid* contained in a clean test-tube, little or no darkening in colour should take place (absence of organic impurities). No turbidity, either permanent or transient, should be produced when the Acid is added drop by drop to twice its volume of *ether* (absence of gum, sugar, mannite, calcium phosphate). It should give no precipitate with *solution of lead subacetate* (absence of malic and sulphuric acids).

ACIDUM NITRICUM.

Nitric Acid.

A liquid containing 70 per cent. by weight of hydrogen nitrate, HNO_3, and 30 per cent. of water, prepared by the interaction of sulphuric acid and potassium or sodium nitrate.

Characters and Tests.—A clear, colourless liquid emitting corrosive fumes. It yields, when neutralised, the reactions characteristic of nitrates. The liquid boils constantly at 250° F. (121° C.). When distilled, the product continues uniform throughout the process. Specific gravity 1·42. Each gramme diluted with *water* should require for neutralisation 11·1 cubic centimetres of the *volumetric solution of sodium hydroxide.* It should yield no characteristic reaction with the tests for lead, copper, arsenium, iron, chlorides, bromates, iodates, or sulphates. It should yield no residue or not more than 0·005 per cent. on evaporation to dryness.

ACIDUM NITRICUM DILUTUM.

Diluted Nitric Acid.

100 parts by weight should contain 17·44 parts of hydrogen nitrate, HNO_3.

	IMPERIAL	METRIC
Nitric Acid . .	3 fl. ounces and 7 fl. drachms (more exactly, 3·86 fl. oz.) or 2400 grains.	193·2 cubic centimetres or 274·3 grammes.
Distilled Water . .	a sufficient quantity.	

Introduce the Nitric Acid into a glass flask, the capacity of which to a mark on the neck is one pint (or one thousand cubic centimetres); add Distilled Water until the mixture, at 60° F. (15·5° C.), measures one pint (or one thousand cubic centimetres).

Tests.—Specific gravity 1·101. Each gramme should require for neutralisation 2·7 cubic centimetres of the *volumetric solution of sodium hydroxide.*

Dose.—5 to 20 minims.

ACIDUM NITRO-HYDROCHLORICUM DILUTUM.

Diluted Nitro-hydrochloric Acid.

An aqueous solution of free chlorine, hydrochloric, nitric, and nitrous acids.

	IMPERIAL	METRIC
Nitric Acid . .	3 fl. ounces	60 cubic centimetres
Hydrochloric Acid	4 fl. ounces	80 cubic centimetres
Distilled Water .	25 fl. ounces	500 cubic centimetres

Mix the Acids with the Distilled Water, and keep the mixture in a glass-stoppered bottle for fourteen days before it is used.

Characters and Tests.—Colourless, with a pungent acid taste and odour. Specific gravity 1·07. 4 grammes should require for neutralisation about 10 cubic centimetres of the *volumetric solution of sodium hydroxide.*

Dose.—5 to 20 minims.

ACIDUM OLEICUM.

Oleic Acid.

Oleic Acid, $CH_3(CH_2)_7CH:CH(CH_2)_7COOH$, or hydrogen oleate, is obtained by the saponifying action of alkalis and subsequent action of acids, or by the action of superheated steam, upon the olein of fats. Usually not quite pure.

Characters and Tests.—Oleic Acid is a straw-coloured liquid, occasionally with a faintly rancid smell, and with not more than a slight acid reaction. It becomes brown and more acid when exposed to the air. It is insoluble in *water*, but readily soluble in *alcohol* (90 per cent.), *chloroform*, or *ether*. At 40° to 41° F. (4·5° to 5° C.) it becomes semi-solid, melting again at 56° to 60° F. (13·3° to 15·5° C.). Specific gravity 0·890 to 0·910. Dissolve about 1 gramme of the Acid in 15 to 20 times its volume of *alcohol* (90 per cent.); add two drops of *solution of phenol-phthalein* and, drop by drop, a 25 per cent. aqueous solution of *sodium hydroxide* until the liquid after shaking remains slightly red and the acid is completely neutralised; then drop in *diluted acetic acid* until, after shaking, the red tint just disappears; filter the liquid, and mix about 10 cubic centimetres of it with an equal volume of Purified Ether and 1 cubic centimetre of a 10 per cent. aqueous solution of *lead acetate*; only a slight turbidity should result (absence of more than traces of stearic or palmitic acid).

ACIDUM PHOSPHORICUM CONCENTRATUM.

Concentrated Phosphoric Acid.

A liquid containing 66·3 per cent. of hydrogen orthophosphate, H_3PO_4, with 33·7 per cent. of water. It may be prepared by treating, with water and nitric acid, the residue left after burning phosphorus in air.

Characters and Tests.—A colourless, syrupy liquid with an acid taste and reaction. Evaporated, it leaves a residue which melts at a low red heat, and when cold forms a glass-like mass. The Acid yields, when neutralised, the reactions characteristic of phosphates. Specific gravity 1·5. Each gramme of it mixed with 2·5 grammes of Lead Oxide in fine powder should leave on evaporation a residue which, after it has been heated to dull redness, weighs 2·98 grammes. It should yield, when diluted with *water*, no characteristic reaction with the tests for lead, copper, arsenium, calcium, potassium, sodium, ammonium, chlorides, or nitrates, and only slight traces of iron or sulphates. Diluted, with five or six times its bulk of *water*, it is not precipitated by *solution of albumen* (absence of metaphosphoric acid), nor on adding Tincture of Ferric Chloride and setting the mixture aside for several hours (absence of metaphosphoric and pyrophosphoric acids). Diluted with *water* and the mixture set aside, no precipitate occurs (absence of silica). Diluted and mixed with an equal volume of *test-solution of mercuric chloride* and heated, no precipitate is formed (absence of phosphorous acid).

ACIDUM PHOSPHORICUM DILUTUM.

Diluted Phosphoric Acid.

A liquid containing, by weight, 13·8 parts of hydrogen orthophosphate, H_3PO_4, and 86·2 parts of water.

	IMPERIAL	METRIC
Concentrated Phosphoric Acid	3 fl. ounces or 4·5 ounces	150 cubic centimetres or 225 grammes
Distilled Water	a sufficient quantity	

Dilute the Concentrated Phosphoric Acid with sufficient Distilled Water to form, at 60° F. (15·5° C.), one pint (or one thousand cubic centimetres) of Diluted Phosphoric Acid.

Characters and Tests.—A colourless liquid, responding to the qualitative tests given under 'Acidum Phosphoricum Concentratum.' Specific gravity 1·08. Each gramme of it mixed with 0·5 gramme of Lead Oxide in fine powder should leave on evaporation a residue which after it has been heated to dull redness weighs 0·6 gramme.

Dose.—5 to 20 minims.

ACIDUM SALICYLICUM.

Salicylic Acid.

A crystalline acid, $C_6H_4{\cdot}OH{\cdot}COOH$, obtained from natural salicylates such as the oils of wintergreen (Gaultheria procumbens, *Linn.*) [*Bentl. and Trim. Med. Pl.* vol. iii. plate 164] and sweet-birch (Betula lenta, *Linn.*) [*Sargent, Silva*, vol. ix. tab. 448], or by the interaction of sodium carbolate and carbonic anhydride.

Characters and Tests.—Distinct, prismatic, colourless crystals. Taste at first sweetish, then acid, leaving a burning sensation in the throat. Soluble in about 500 parts of cold *water*, readily soluble in 15 parts of hot *water*, soluble in 3 parts of *alcohol* (90 per cent.), in 2 of *ether*, or in 200 of *glycerin*. Dissolves in *solutions of ammonium citrate, ammonium acetate, sodium phosphate*, and in solution of *borax*, also in solutions of alkaline hydroxides and carbonates, salicylates being produced; such solutions of salicylates, if not weaker than 1 per cent., afford a yellowish-brown precipitate with *solution of uranium nitrate* (distinction from carbolates and sulphocarbolates). The crystals melt at 312·8° to 314·6° F. (156° to 157° C.), and below 392° F. (200° C.) volatilise without decomposition. *Test-solution of ferric chloride* gives with the aqueous solution a violet colour, or, if the solution be largely diluted, a reddish-violet colour. Shaken up with a small proportion of *water*, the mixture filtered, and the solution evaporated, there remains a white residue, having no buff-tinted fringe (absence of iron, organic impurities, and colouring matter). Salicylic Acid dissolves in cold *sulphuric acid*, imparting to the liquid no colour in 15 minutes (absence of organic impurities). When 1 gramme of the Acid is dissolved in an excess of cold *solution of sodium carbonate*, the liquid agitated with an equal volume of *ether*, and the ethereal solution allowed to evaporate spontaneously, the residue, if any, should be free from the odour of phenol (absence of phenol).

Dose.—5 to 20 grains.

ACIDUM SULPHURICUM.

Sulphuric Acid.

An acid produced by the combustion of sulphur or pyrites and the oxidation and hydration of the resulting sulphurous anhydride by means of nitrous and aqueous vapours. It should contain about 98 per cent. by weight of hydrogen sulphate, H_2SO_4.

Characters and Tests.—A colourless, corrosive, intensely acid liquid of oily consistence, evolving much heat on the addition of *water*. It yields, when neutralised, the reactions characteristic of sulphates. Specific gravity 1·843. Each gramme diluted with 20 or 30 cubic centimetres of *water* should require for neutralisation 20·1 cubic centimetres of the *volumetric solution of sodium hydroxide*. It should yield no characteristic reaction with the tests for lead, copper, arsenium, iron, ammonium, chlorides, nitrates, nitrites, or sulphites. It should yield no appreciable residue on evaporation. *Hydrochloric acid* containing *sodium sulphite*, when poured carefully upon an equal volume of Sulphuric Acid contained in a test-tube, should not cause a red coloration at the junction of the two liquids, and no red precipitate should form on warming the tube (absence of selenium).

ACIDUM SULPHURICUM AROMATICUM.

Aromatic Sulphuric Acid.

Synonym.—Elixir of Vitriol.

	IMPERIAL	METRIC
Tincture of Ginger.	10 fl. ounces .	250 cubic centimetres
Spirit of Cinnamon	$\frac{1}{2}$ fl. ounce .	12·5 cubic centimetres
Alcohol (90 per cent.)	29$\frac{1}{2}$ fl. ounces	737·5 cubic centimetres
Sulphuric Acid .	3 fl. ounces or 2419 grains	75 cubic centimetres or 138·2 grammes

Mix the Sulphuric Acid gradually with the Alcohol; add the Spirit of Cinnamon and Tincture of Ginger.

Tests.—Specific gravity 0·922 to 0·926. The neutralising power of 100 grammes should be equivalent to that of 13·8 grammes of hydrogen sulphate, H_2SO_4.

Dose.—5 to 20 minims.

ACIDUM SULPHURICUM DILUTUM.

Diluted Sulphuric Acid.

100 parts by weight should contain 13·65 parts of hydrogen sulphate, H_2SO_4.

	IMPERIAL	METRIC
Sulphuric Acid .	1 fl. ounce and 5$\frac{1}{4}$ fl. drachms (more exactly, 1·65 fl. oz.) or 1333 grains	82·7 cubic centimetres or 152·4 grammes
Distilled Water .	. a sufficient quantity	

Half fill with Distilled Water a glass flask the capacity of which to a mark on the neck is one pint (or one thousand cubic centimetres). Then introduce the Sulphuric Acid, and add very gradually Distilled Water until the mixture, after it has been shaken and cooled to 60° F. (15·5° C.), measures one pint (or one thousand cubic centimetres).

Tests.—Specific gravity 1·094. Each gramme should require for neutralisation 2·8 cubic centimetres of the *volumetric solution of sodium hydroxide.*

Dose.—5 to 20 minims.

ACIDUM SULPHUROSUM.

Sulphurous Acid.

An aqueous solution containing 6·4 per cent. of hydrogen sulphite, H_2SO_3, corresponding to 5 per cent. by weight of sulphurous anhydride, SO_2. The sulphurous anhydride may be prepared by burning sulphur in air or oxygen, or by boiling sulphuric acid with carbon, mercury, or copper.

Characters and Tests.—A colourless liquid with a pungent sulphurous odour. It yields, when neutralised, the reactions characteristic of sulphites. It gives but a slight precipitate with *solution of barium chloride* (absence of excess of sulphates), but a copious precipitate if *solution of chlorine* also be added. When evaporated it leaves no residue. Specific gravity 1·025. Mixed with 100 times its volume of recently boiled and cooled *water*, and a little *mucilage of starch*, it should not acquire a permanent blue colour with the *volumetric solution of iodine* until, for each gramme of the acid, 15·7 cubic centimetres of the *volumetric solution of iodine* have been added.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

ACIDUM TANNICUM.

Tannic Acid.

Synonym.—Tannin.

Tannic Acid, $C_{14}H_{10}O_9,2H_2O$, may be extracted by water-saturated ether from Galls which have been subjected to a special fermentation.

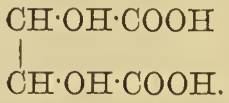
Characters and Tests.—A light brownish powder consisting of thin glistening scales, with a characteristic odour, a strongly astringent taste, and an acid reaction; soluble in 1 part of *water* or of *alcohol* (90 per cent.), and, slowly, in 1 part of *glycerin*. It is precipitated from its aqueous solution and loses its astringency in the presence of many mineral salts and acids. The aqueous solution precipitates *solutions of isinglass*, *albumen*, alkaloids, and *tartarated antimony*, and gives with *test-solution of ferric chloride* a bluish-black colour. It should leave no appreciable residue when incinerated with free access of air.

Dose.—2 to 5 grains.

ACIDUM TARTARICUM.

Tartaric Acid.

Tartaric Acid, or dextro-rotatory hydrogen tartrate, $C_4H_6O_6$, prepared from acid potassium tartrate. In constitution it may be regarded as dioxysuccinic acid, or dihydroxysuccinic acid,



$$\begin{array}{l}\mathrm{CH{\cdot}OH{\cdot}COOH}\\ |\\ \mathrm{CH{\cdot}OH{\cdot}COOH.}\end{array}$$

Characters and Tests.—In colourless, monoclinic prisms. It has a strongly acid taste, and is readily soluble in less than its own weight of *water* and in less than three times its weight of *alcohol* (90 per cent.). Neutralised, it affords the reactions characteristic of tartrates. An aqueous solution rotates the plane of a ray of polarised light to the right. Each gramme of Tartaric Acid dissolved in *water* should require for neutralisation 13·3 cubic centimetres of the *volumetric solution of sodium hydroxide.* It should yield no characteristic reaction with the tests for copper, arsenium, iron, potassium, sodium, or oxalates, only the slightest reactions with the tests for calcium or sulphates, and no reaction for lead by the test described under 'Acidum Citricum.' On incineration with free access of air, it should not yield more than 0·05 per cent. of ash.

Dose.—5 to 20 grains.

ACONITI RADIX.

Aconite Root.

The root of Aconitum Napellus, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. i. plate 6], collected in the autumn from plants cultivated in Britain, and dried.

Characters.—Aconite Root varies usually from two to four inches (five to ten centimetres) in length, and from one-half to three-quarters of an inch (twelve to eighteen millimetres) in diameter at the upper extremity, gradually tapering below. Dark brown in colour, marked with the scars and bases of broken rootlets and crowned with the remains of an undeveloped bud. Fracture short. Internally the Root is whitish and starchy. It should not be hollow or spongy and should not retain any portions of the stem. The transverse section exhibits a thick parenchymatous cortex and a large stellate pith with about seven projecting angles; the groups of vessels are small and few in number. No marked odour; taste at first slight, followed by a persistent sensation of tingling and numbness in the mouth.

ACONITINA.

Aconitine.

An alkaloid obtained from Aconite Root, and having the formula $C_{33}H_{45}NO_{12}$.

Characters and Tests.—Colourless hexagonal prisms of the rhombic system. Melting point 372·2° to 374° F. (189° to 190° C.). Slightly above this temperature it yields acetic acid. Readily soluble in *alcohol* (90 per cent.) or *chloroform*, less readily in *ether*. Nearly insoluble in *water* and in *petroleum spirit*. An alcoholic solution of the alkaloid turns the plane of a ray of polarised light to the right. A drop of even an extremely dilute solution (not more than one-tenth per cent.) when placed on the tongue produces a persistent tingling sensation. The salts of Aconitine are crystalline. The hydrochloride melts at 300·2° F. (149° C.) and the hydrobromide at 327·2° F. (164° C.). A dilute solution of the alkaloid, even 1 part in 4000 parts of *water*, faintly acidulated with *acetic acid*, deposits a red crystalline precipitate on the addition of a few drops of *solution of potassium permanganate*.

ADEPS.

Lard.

The purified fat of the hog, Sus scrofa, *Linn.*

From the perfectly fresh fat of the abdomen of the hog remove as much of the external membranes as possible; suspend the fat so that it shall be freely exposed to the air for some hours; cut it into small pieces; reduce these to a uniform mass in which the membranous vesicles are completely broken, by beating in a mortar or by some similar process; put the mass thus produced into a vessel surrounded by warm water; heat to a temperature not exceeding 135° F. (57·2° C.) until the fat has melted and separated from the membranous matter; strain.

Characters and Tests.—A soft, white, fatty substance, fusing at about 100° F. (37·8° C.), and forming a clear liquid at a somewhat higher temperature. Has no rancid odour; is neutral to *litmus*; dissolves entirely in *ether*. It should yield no reaction with the tests for sodium, chlorides, or starch. If a solution of 0·05 gramme of *silver nitrate* in 5 cubic centimetres of *alcohol* (90 per cent.), to which a drop of *nitric acid* has been added, be heated with 5 cubic centimetres of melted Lard on a water-bath for 5 minutes and then vigorously shaken, the fatty layer which separates on standing should not darken in colour (absence of cotton-seed oil). 10 grammes of Lard dissolved in a mixture of equal volumes of *chloroform* and *alcohol* (90 per cent.), two drops of *solution of phenol-phthalein* being added, should not require more than 0·2 cubic centimetre of the *volumetric solution of sodium hydroxide* to produce a permanent red colour (limit of acidity).

ADEPS BENZOATUS.
Benzoated Lard.

	IMPERIAL	METRIC
Lard	1 pound .	500 grammes
Benzoin, in powder .	210 grains .	15 grammes

Melt the Lard on a water-bath; add the Benzoin; continue the application of heat for two hours, frequently stirring; remove the residue of the Benzoin by straining; stir the Benzoated Lard until cold.

ADEPS LANÆ.
Wool Fat.

The purified cholesterin-fat of sheep's wool.

Characters and Tests.—A yellowish, tenacious, unctuous substance; almost inodorous; melting point varies from 104° to 112° F. (40° to 44·4° C.); readily soluble in *ether* or in *chloroform*, sparingly soluble in *alcohol* (90 per cent.). 1 gramme should dissolve almost completely in 75 cubic centimetres of boiling *alcohol* (90 per cent.), the greater part separating in flocks on cooling. When incinerated with free access of air, it leaves not more than 0·3 per cent. of ash, which should not be alkaline to *litmus*. 10 grammes dissolved in 25 cubic centimetres of *ether*, two drops of *solution of phenol-phthalein* being added, should not require more than 0·1 cubic centimetre of *volumetric solution of sodium hydroxide* to produce a permanent red coloration (limit of acidity). The solution in *chloroform* poured gently over the surface of *sulphuric acid* acquires a purple-red colour. Heated with *solution of sodium hydroxide*, no ammoniacal odour should be evolved (absence of nitrogenous animal matter).

ADEPS LANÆ HYDROSUS.

Hydrous Wool Fat.

	IMPERIAL	METRIC
Wool Fat . .	7 ounces .	140 grammes
Distilled Water .	3 fl. ounces .	60 cubic centimetres

Place the Wool Fat in a warm mortar; add the Distilled Water gradually and with constant trituration.

Characters and Tests.—Yellowish white; free from rancid odour. When heated it separates into an upper oily, and a lower aqueous, layer. 10 grammes heated on a water-bath, with stirring, until the weight is constant, should yield not less than 7 grammes of residue, which should answer to the tests for Wool Fat.

ÆTHER.

Ether.

A volatile liquid prepared from ethylic alcohol by interaction with sulphuric acid. It contains not less than 92 per cent. by volume of ethyl oxide $(C_2H_5)_2O$. It was formerly termed sulphuric ether.

Characters and Tests.—A colourless very volatile and inflammable liquid, having a strong and characteristic odour. Its vapour is heavy and highly inflammable, forming an explosive mixture with air. Ether is miscible in all proportions with *alcohol* (90 per cent.), *chloroform*, and fixed and volatile oils. 100 volumes agitated with an equal volume of *water* should not be reduced to less than 90 (absence of excess of ethylic alcohol). It should boil below 105° F. (40·5° C.). Specific gravity 0·735. It evaporates without residue. It should have no action on *solution of litmus.* It should dissolve without coloration when introduced drop by drop into *sulphuric acid* kept cool during the test (absence of organic impurities).

Dose.—10 to 30 minims, for repeated administration; for a single administration, 40 to 60 minims.

ÆTHER ACETICUS.

Acetic Ether.

An ethereal liquid consisting of ethyl acetate, $CH_3{\cdot}COO(C_2H_5)$, together with unimportant amounts of ethylic alcohol or other substances, obtained by distillation from a mixture of ethylic alcohol, sulphuric acid, and dried sodium acetate, digestion of the distillate with dried potassium carbonate, and subsequent separation, by distillation, of the portion boiling between 165° and 172° F. (73·9° and 77·8° C.).

Characters and Tests.—A colourless liquid with a fragrant odour. Soluble in all proportions in *alcohol* (90 per cent.), *ether*, or *chloroform.* 1 part by weight dissolves in not less than 10 parts of cold *water.* Specific gravity 0·900 to 0·905. It should have no action on *solution of litmus.* It is not coloured when mixed with an equal volume of *sulphuric acid* (absence of organic impurities). Filter-paper moistened with Acetic Ether should remain odourless when the liquid has evaporated.

Dose.—20 to 40 minims, for repeated administration; for a single administration, 60 to 90 minims.

ÆTHER PURIFICATUS.

Purified Ether.

Ether from which most of the ethylic alcohol has been removed by washing with distilled water, and most of the water by subsequent distillation in the presence of calcium chloride and recently prepared lime.

Tests.—Specific gravity not exceeding 0·722 and not below 0·720. 5 cubic centimetres on spontaneous evaporation should not afford any abnormal odour and should not leave any residue. Its vapour is heavy and highly inflammable. It should dissolve in an equal volume of *carbon bisulphide* (absence of excess of water). Heated, it begins to distil at a temperature not under 94·1° F. (34·5° C.) (absence of methylic ether). No effect should be produced by the addition of *potassium hydroxide* (absence of aldehyde). No alteration in colour is produced on moistened *blue litmus paper* after twenty-four hours' contact (absence of acid). On shaking with half its bulk of a dilute solution of *potassium bichromate* acidulated with *sulphuric acid,* and setting aside, the supernatant Ether should have no blue colour (absence of hydrogen peroxide). Filter-paper moistened with Purified Ether should remain odourless when the liquid has evaporated.

ALCOHOL ABSOLUTUM.

Absolute Alcohol.

Ethyl hydroxide, C_2H_5OH, with not more than 1 per cent., by weight, of water; obtained by the removal of water from less strong ethylic alcohol, and subsequent distillation.

Characters and Tests.—Specific gravity from 0·794 (equivalent to 99·95 per cent. of ethyl hydroxide by volume and by weight) to 0·7969 (equivalent to 99·4 per cent. of ethyl hydroxide by volume or 99 per cent. by weight). It is very volatile and hygroscopic at common temperatures. Mixed with 1 to 2 per cent. of anhydrous *copper sulphate* in a well-closed bottle, and the mixture set aside for two or three hours and occasionally well shaken, the salt does not become of a decidedly blue colour (absence of excess of water). Absolute Alcohol should be free from the impurities mentioned under 'Alcohol (90 per cent.),' page 310, and in other general characters should resemble it.

ALOE BARBADENSIS.

Barbados Aloes.

The juice that flows from the transversely cut leaves of Aloe vera, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. iv. plate 282], Aloe chinensis, *Bak.* [*Bot. Mag.* plate 6301], and probably other species, evaporated to dryness. Imported from the West Indian Islands, and known in commerce as Barbados and Curaçao aloes.

Characters and Tests.—In hard masses varying in colour from yellowish or reddish-brown to chocolate-brown or almost black. Fracture either dull and waxy, in which case small splinters are opaque; or smooth and glassy, in which case the splinters are transparent; the opaque variety examined under the microscope exhibits numerous minute crystals embedded in a transparent mass. Odour disagreeable, taste nauseous and bitter. The powder imparts a crimson colour to *nitric acid,* and when treated with *sulphuric acid* and the vapour of *nitric acid* should yield only a slight bluish-green, but not a bright blue colour (absence of Natal aloes). Barbados Aloes is almost entirely soluble in *alcohol* (90 per cent.) diluted with half its volume of *water.* Not more than 30 per cent. should be insoluble in cold *water.*

Dose.—2 to 5 grains.

ALOE SOCOTRINA.

Socotrine Aloes.

The juice that flows from the transversely cut leaves of Aloe Perryi, *Baker* [*Bot. Mag.* plate 6596], and probably other species of Aloe, evaporated to dryness. Imported principally by way of Bombay, and known in commerce as Socotrine and Zanzibar aloes.

Characters and Tests.—Socotrine Aloes, as imported, is usually more or less viscid and brownish-yellow, but forms, when dried, hard dark-brown, or nearly black masses which break with a dull and waxy, uneven fracture. Odour strong but not disagreeable, taste nauseous and bitter.

Zanzibar Aloes is usually imported in liver-brown masses. Fracture dull and waxy, but nearly smooth and even. It has a characteristic odour and a nauseous and bitter taste.

Both varieties are opaque even in small splinters, exhibit when examined under the microscope numerous minute crystals embedded in a transparent mass, and impart to *nitric acid* a reddish or yellowish-brown colour. If the vapour of *nitric acid* is blown over the powder previously mixed with *sulphuric acid*, no blue coloration is produced (absence of Barbados and Natal Aloes).

Socotrine and Zanzibar Aloes are almost entirely soluble in *alcohol* (90 per cent.) diluted with half its volume of *water*; and about 50 per cent. should be soluble in *water*.

Dose.—2 to 5 grains.

ALOINUM.

Aloin.

Aloin is extracted from Barbados or Socotrine Aloes by solvents and purified by recrystallisation. The products from the different varieties of Aloes possess similar properties. The Aloin extracted from Barbados Aloes has the formula $C_{16}H_{16}O_7,3H_2O$.

Characters.—Usually in tufts of acicular crystals, yellow, inodorous, and having the taste of aloes. Sparingly soluble in cold *water*, more soluble in *alcohol* (90 per cent.), freely soluble in the hot liquids. Nearly insoluble in *ether*. Not readily altered in acidulated or neutral solutions; rapidly altered in alkaline liquids.

Dose.—$\frac{1}{2}$ grain to 2 grains.

ALUMEN.

Alum.

Aluminium and potassium sulphate (Potassium Alum), $Al_2(SO_4)_3,K_2SO_4,24H_2O$, or aluminium and ammonium sulphate (Ammonium Alum), $Al_2(SO_4)_3,(NH_4)_2SO_4,24H_2O$, produced by the combination of aluminium sulphate with potassium sulphate or with ammonium sulphate.

Characters and Tests.—In colourless transparent crystalline masses, exhibiting the faces of the regular octahedron, and having a sweetish astringent taste. It is soluble in ten times its weight of cold and in one third of its weight of boiling *water*, the solution having an acid reaction. It is freely soluble in *glycerin*, insoluble in *alcohol* (90 per cent.). It affords the reactions characteristic of aluminium, of potassium or ammonium, and of sulphates. It should yield no characteristic reaction with the tests for copper, lead, zinc, calcium, or sodium, and only the slightest reactions with the tests for iron.

Dose.—5 to 10 grains.

ALUMEN EXSICCATUM.

Exsiccated Alum.

	IMPERIAL	METRIC
Potassium Alum	4 ounces	100 grammes

Heat the Potassium Alum in a porcelain dish or other suitable vessel till it liquefies, then increase and continue the application of heat until aqueous vapour ceases to be disengaged, and the salt has lost between 45 and 46 per cent. of its weight.

Characters.—A white powder slowly and completely soluble in twenty times its weight of cold *water* or three-fourths its weight of boiling *water*. It absorbs moisture on exposure to air.

AMMONIACUM.

Ammoniacum.

A gum-resin exuded from the flowering and fruiting stem of Dorema Ammoniacum, *D. Don*; and probably other species [*Trans. Linn. Soc.* Ser. 2, Bot. vol. iii. plates 23–25].

Characters and Tests.—In small dull pale yellowish or brownish tears, or in nodular masses varying in size from a quarter of an inch to an inch (about six to twenty-six millimetres) in diameter. It is hard and brittle when cold, the freshly fractured surface having a waxy lustre; it softens when warmed. Internally it is opaque and varies in colour from milky white to pale brownish-yellow. It has a faint characteristic but not alliaceous odour and a bitter acrid taste. Triturated with *water* it forms a white emulsion. The freshly fractured surface is coloured yellow by *solution* *of potassium hydroxide*, and dark red or orange by *solution of chlorinated soda.* If a small fragment be strongly heated in a dry test-tube, the contents of the tube, after cooling, yield with boiling *water* a solution which when largely diluted with *water*, and made alkaline with *solution of ammonia*, does not exhibit a blue fluorescence (distinction from asafetida and galbanum).

Dose.—5 to 15 grains.

AMMONII BENZOAS.

Ammonium Benzoate.

This salt, $C_6H_5{\cdot}COONH_4$, is produced by neutralising benzoic acid with solution of ammonia.

Characters and Tests.—In colourless lamellar crystals, soluble in 6 parts of cold *water*, in 30 of *alcohol* (90 per cent.), and in 8 of *glycerin.* It affords the reactions characteristic of ammonium salts. An aqueous solution yields a yellowish or flesh-coloured precipitate when mixed with *test-solution of ferric chloride.* A strong aqueous solution to which a little *sulphuric acid* is added affords a crystalline precipitate of benzoic acid. It should yield no residue on heating to redness, and no characteristic reaction with the tests for chlorides or sulphates. Its cold aqueous solution does not at once redden *solution of litmus* (absence of acid); on boiling the solution it slowly dissociates into benzoic acid and ammonia, and affords an acid reaction.

Dose.—5 to 15 grains.

AMMONII BROMIDUM.

Ammonium Bromide.

This salt, NH_4Br, is formed by neutralising hydrobromic acid with solution of ammonia.

Characters and Tests.—In small colourless crystals. Has a somewhat pungent saline taste. May be sublimed unchanged by the application of heat. Readily soluble in *water*, less soluble in *alcohol* (90 per cent.). It affords the reactions characteristic of ammonium salts and of bromides. 0·5 gramme of the dry salt dissolved in *water* should require not more than 51·8 and not less than 51·1 cubic centimetres of the *volumetric solution of silver nitrate* for complete precipitation (limit of impurities). It should yield no residue on being heated to redness, no characteristic reaction with the tests for lead, iron, bromates, iodides, or nitrates, and not more than the slightest reactions with the tests for sulphates or chlorides.

Dose.—5 to 30 grains.

AMMONII CARBONAS.

Ammonium Carbonate.

A variable mixture of ammonium hydrogen carbonate, NH_4HCO_3, with ammonium carbamate, $NH_4NH_2CO_2$, produced on heating ammonium sulphate or chloride with calcium carbonate.

Characters and Tests.—In translucent crystalline masses, with an ammoniacal odour and alkaline reaction; soluble in 4 parts of cold *water*. Exposed to the air it becomes covered with a white efflorescence which should be only superficial; this should be scraped off before the salt is used for dispensing purposes. It affords the reactions characteristic of ammonium salts and of carbonates. Each gramme dissolved in 40 cubic centimetres of *water* should require for neutralisation at least 18·7 cubic centimetres of the *volumetric solution of sulphuric acid.* It should yield no residue on being heated to redness, and not more than the slightest reactions with the tests for chlorides or sulphates. When its aqueous solution is neutralised with an acid and evaporated to dryness, the residue should be colourless and odourless (absence of tarry matters).

Dose.—3 to 10 grains.

AMMONII CHLORIDUM.

Ammonium Chloride.

This salt, NH_4Cl, may be formed by neutralising crude solution of ammonia or ammonium carbonate with hydrochloric acid, and purifying the product.

Characters and Tests.—In colourless inodorous crystals. Soluble in 3 parts of cold *water* and in 60 parts of *alcohol* (90 per cent.). It affords the reactions characteristic of ammonium salts and of chlorides. It should yield no residue on being heated to redness, and no characteristic reaction with the tests for lead, copper, arsenium, calcium, carbonates, or nitrates, and only the slightest reactions with the tests for iron, or for sulphates. Its aqueous solution should not give a blood-red coloration with *test-solution of ferric chloride* (absence of thiocyanates).

Dose.—5 to 20 grains.

AMMONII PHOSPHAS.

Ammonium Phosphate.

A salt, $(NH_4)_2HPO_4$, which may be obtained by neutralising phosphoric acid with solution of ammonia.

Characters and Tests.—In transparent colourless prisms. Soluble in 4 parts of cold *water*, insoluble in *alcohol* (90 per cent.). It affords the reactions characteristic of ammonium salts and of phosphates. When 2 grammes are dissolved in *water*, and *solution of magnesium ammonio-sulphate* is added in excess, a crystalline precipitate should be formed, which, after being well washed upon a filter with *solution of ammonia* diluted with an equal volume of *water*, and then dried and heated to redness, weighs 1·68 grammes. Its aqueous solution should yield no characteristic reaction with the tests for lead, copper, or arsenium, and only the slightest reactions with the tests for iron, chlorides, or sulphates.

Dose.—5 to 20 grains.

AMYGDALA AMARA.

Bitter Almond.

The ripe seed of Prunus Amygdalus, *Stokes, var.* amara, *Baillon.*

Characters.—Resembles the Sweet Almond in general appearance, but is distinguished by being shorter and proportionally broader, by its bitter taste, and by the characteristic odour of its aqueous emulsion.

AMYGDALA DULCIS.

Sweet Almond.

The ripe seed of Prunus Amygdalus, *Stokes, var.* dulcis, *Baillon* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 99]. It is known in commerce as the Jordan almond.

Characters.—About an inch (two and a half centimetres) or somewhat more in length, nearly oblong in outline, more or less compressed, pointed at one extremity, rounded at the other. The testa is cinnamon-brown, thin, and rough. The seed is exalbuminous and contains two large plano-convex oily cotyledons. It has a bland taste, and when triturated with *water* forms a white emulsion without any marked odour.

AMYL NITRIS.

Amyl Nitrite.

A liquid produced by the interaction of amylic alcohol which has been distilled between 262° and 270° F. (127·7° to 132·2° C.) and nitrous acid. It consists chiefly of iso-amyl nitrite, $C_5H_{11}NO_2$, but contains also other nitrites of the homologous series.

Characters and Tests.—An ethereal liquid of a yellowish colour, fragrant odour, and not more than the faintest acid reaction. Almost insoluble in *water*; soluble in *alcohol* (90 per cent.) in all proportions. If it be added drop by drop to fused *potassium hydroxide*, potassium iso-valerianate will be formed. Specific gravity 0·870 to 0·880. Submitted to distillation, about 70 per cent. passes over between 194° and 212° F. (90° and 100° C.), the bulb of the thermometer not dipping below the surface of the residual fluid. A mixture of 5 volumes with sufficient *alcohol* (90 per cent.) to form 100 volumes affords a liquid of which a portion tested in a nitrometer as described under 'Spiritus Ætheris Nitrosi' should yield not less than 6 times its bulk of nitric oxide gas. On shaking with an equal volume of *solution of potassium hydroxide* the aqueous portion should have only a pale yellow colour (limit of aldehyde). A small quantity in a test-tube placed in melting ice remains transparent (absence of water). It deteriorates unless kept in well-stoppered bottles.

Dose for inhalation.—The vapour of 2 to 5 minims.

AMYLUM.

Starch.

The starch procured from the grains of common wheat, Triticum sativum, *Lam.*; maize, Zea Mays, *Linn.*; and rice, Oryza sativa, *Linn.*; [*Bentl. and Trim. Med. Pl.* vol. iv. plates 291 to 296].

Characters and Tests.—In fine powder or in irregular angular or columnar masses, which are readily reduced to powder; white, inodorous. When lightly rubbed in a mortar with a little cold *water*, the mixture is neither acid nor alkaline to *test-papers*. Boiled with *water* and cooled, it gives a deep blue colour with *solution of iodine*. Under the microscope the several varieties of Starch present the following characters:—1. Wheat Starch: A mixture of large and small granules, the former lenticular in shape, and marked with faint concentric striæ surrounding a nearly central hilum. 2. Maize Starch: Granules more uniform in size, frequently polygonal, somewhat smaller than the large granules of Wheat Starch, and having a very distinct hilum but no evident concentric striæ. 3. Rice Starch: Granules extremely minute, nearly uniform in size, polygonal, without evident hilum or striæ. The Starch should be free from granules other than those described.

ANETHI FRUCTUS.

Dill Fruit.

The dried ripe fruit of Peucedanum graveolens, *Benth. and Hook. f.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 132].

Characters.—The two mericarps of which the fruit is composed are usually separate and freed from the pedicel; each of them is broadly oval, about one-sixth of an inch (four millimetres) long and from one-twelfth to one-eighth of an inch (two to three millimetres) broad. Very strongly compressed dorsally. They are brown in colour; the dorsal ridges are inconspicuous, but the lateral are prolonged into paler brown wings. Odour and taste agreeably aromatic. Each mericarp exhibits, in transverse section, six vittæ.

ANISI FRUCTUS.

Anise Fruit.

The dried ripe fruit of Pimpinella Anisum, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 122].

Characters.—The Fruit is ovoid in form, somewhat laterally compressed, and rough from the presence of short, bristly hairs; greyish-brown in colour; about one-fifth of an inch (five millimetres) long and one-twelfth of an inch (two millimetres) broad. The mericarps usually remain united and attached to the pedicel. The primary ridges are pale, slender, and entire. Each mericarp exhibits, in transverse section, numerous vittæ. Odour agreeably aromatic, taste aromatic and sweet.

ANTHEMIDIS FLORES.

Chamomile Flowers.

The dried expanded flower-heads of Anthemis nobilis, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. iii. plate 154], collected from cultivated plants.

Characters.—About one-half to three-quarters of an inch (twelve to twenty millimetres) in diameter, hemispherical in shape, white or nearly white in colour. The involucre is composed of several rows of oblong bracts with membranous margins; the receptacle is solid, conical, and densely covered with concave, blunt, narrow, scaly bracts; the florets are mostly ligulate and white. Chamomile Flowers have a strong aromatic odour and bitter taste.

ANTIMONII OXIDUM.

Antimonious Oxide.

Antimonious Oxide, Sb_4O_6, may be prepared by pouring solution of antimonious chloride into water, and decomposing the precipitated antimony oxychloride with sodium carbonate.

Characters and Tests.—A greyish-white powder, fusible at a low red heat, insoluble in *water*, readily dissolved by *hydrochloric acid.* The solution affords the reactions characteristic of antimony. If 0·5 gramme be dissolved in a hot solution of 1 gramme of Acid Potassium Tartrate and the solution then made alkaline with 3 grammes of *sodium bicarbonate,* the cooled liquid should discharge the colour of 70 cubic centimetres of the *volumetric solution of iodine.* Antimonious Oxide should yield no characteristic reaction with the tests for lead, copper, arsenium, calcium, sodium, or potassium, only slight reactions with the tests for iron, and only the slightest reactions with the tests for chlorides or sulphates. It should dissolve entirely when boiled with an excess of Acid Potassium Tartrate.

Dose.—1 to 2 grains.

ANTIMONIUM NIGRUM PURIFICATUM.

Antimonious Sulphide.

Native antimonious sulphide, Sb_2S_3, from which siliceous matter has been removed by fusion, reduced to fine powder, and, if any salt of arsenium be present, purified by digesting with half its weight of solution of ammonia for several days, washing and drying.

Characters and Tests.—A greyish-black crystalline powder decomposed on boiling with *hydrochloric acid,* an almost clear solution being formed and hydrogen sulphide escaping. The solution affords the reactions characteristic of antimony. It should not yield more than slight characteristic reactions with the tests for arsenium.

ANTIMONIUM SULPHURATUM.

Sulphurated Antimony.

A mixture containing antimony sulphides and oxides, Sb_2S_5,Sb_2O_5,Sb_2S_3,Sb_4O_6, and sulphur.

	IMPERIAL	METRIC
Antimonious Sulphide	10 ounces	200 grammes
Sublimed Sulphur	10 ounces	200 grammes
Caustic soda, of commerce	5 ounces	100 grammes
Diluted Sulphuric Acid Distilled Water	of each a sufficient quantity	

Dissolve the caustic soda in five pints (or two thousand cubic centimetres) of the Distilled Water; with this solution mix the Antimonious Sulphide and the Sublimed Sulphur; boil for two hours with frequent stirring, adding Distilled Water occasionally to maintain the same volume; then, while the whole is still hot, add nine pints (or three thousand six hundred cubic centimetres) of boiling Distilled Water; strain the product through calico; before the strained liquid cools add to it by degrees the Diluted Sulphuric Acid till the latter is in slight excess; collect the precipitate on a calico filter; wash with Distilled Water till the washings are free from sulphates; dry at a temperature not exceeding 212° F. (100° C.).

Characters and Tests.—A dull-red powder, readily dissolved by *solution of sodium hydroxide*, also by hot *hydrochloric acid* with the evolution of hydrogen sulphide and the separation of sulphur. 3 grammes moistened and warmed with successive portions of *nitric acid* until red fumes cease to be evolved, and then dried and heated to redness, should leave a white residue weighing about 2 grammes. Sulphurated Antimony should not yield more than the slightest characteristic reactions with the tests for arsenium.

Dose.—1 to 2 grains.

ANTIMONIUM TARTARATUM.

Tartarated Antimony.

Synonyms.—Potassio-tartrate of Antimony; Tartar Emetic.

Tartarated Antimony, $[K(SbO)C_4H_4O_6]_2H_2O$, is prepared by setting aside a mixture of antimonious oxide and acid potassium tartrate, made into a paste with a little water, until combination has taken place, and then purifying by crystallisation from water.

Characters and Tests.—In colourless transparent crystals exhibiting triangular facets; soluble in 17 parts of cold *water*, and in 3 parts of boiling *water*, forming a slightly acid solution; almost insoluble in *alcohol* (90 per cent.), moderately soluble in weak alcoholic liquids. Taste sweet and metallic. It is precipitated from its solutions by *solution of tannic acid*, and by alkalis and alkaline carbonates, but not by Gallic Acid. It affords the reactions characteristic of antimony, of potassium, and of tartrates. Each gramme dissolved in *water* with 2 or 3 grammes of *sodium bicarbonate* should discharge the colour of not less than 60·2 nor more than 60·7 cubic centimetres of the *volumetric solution of iodine* quickly introduced from a burette. It should yield no characteristic reaction with the tests for lead, copper, arsenium, iron, calcium, sodium, ammonium, chlorides, or sulphates. It should not effervesce with *solution of sodium bicarbonate* (absence of acid potassium tartrate). 1·66 grammes should dissolve slowly but without residue in 25 cubic centimetres of *water* at 60° F. (15·5° C.).

Dose.—As a diaphoretic, $\frac{1}{24}$ to $\frac{1}{8}$ grain; as an emetic, 1 to 2 grains.

APOMORPHINÆ HYDROCHLORIDUM.

Apomorphine Hydrochloride.

Hydrochlorate of Apomorphine, Brit. Pharm. 1885.

The hydrochloride, $C_{17}H_{17}NO_2$,HCl, of an alkaloid obtained by heating morphine hydrochloride or codeine hydrochloride in sealed tubes with hydrochloric acid.

Characters and Tests.—Small, greyish-white, shining, acicular crystals, turning green on exposure to light and air, inodorous. Soluble in 50 parts of *water* and more soluble in *alcohol* (90 per cent.), the solutions being decomposed with production of a green colour when they are boiled. Neutral or very feebly acid to *solution of litmus*. From solutions, *solution of sodium bicarbonate* throws down a precipitate which becomes green on standing and then forms a solution which is purple with *ether*, violet with *chloroform*, and bluish-green with *alcohol* (90 per cent.). With dilute *test-solution of ferric chloride* it gives a deep red, and with *nitric acid* a blood-red coloration. If the salt impart an emerald-green colour to 100 parts of *water*, after shaking the mixture, it should be rejected.

Dose.—$\frac{1}{20}$ to $\frac{1}{10}$ grain, by hypodermic injection; by the mouth, $\frac{1}{10}$ to $\frac{1}{4}$ grain.

AQUA ANETHI.

Dill Water.[1]

	IMPERIAL	METRIC
Dill Fruit	1 pound .	500 grammes
Water	2 gallons .	10 litres

Distil one-half.

AQUA ANISI.

Anise Water.

	IMPERIAL	METRIC
Anise Fruit	1 pound .	500 grammes
Water	2 gallons .	10 litres

Distil one-half.

AQUA AURANTII FLORIS.

Orange-flower Water.

The orange-flower water of commerce, prepared by distillation from the flowers of the Bitter Orange tree, Citrus Aurantium, var. Bigaradia, *Hook. f.* [*Bentl. and Trim. Med.*

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[1] In preparing this and other similar distilled aqueous liquids, only good natural potable water must be employed, as directed for 'Distilled Water.'

Pl. vol. i. plate 50], diluted, immediately before use, with twice its volume of Distilled Water.

Characters and Tests.—Colourless or with a slight greenish-yellow tint; odour very fragrant. It should yield no reaction with the tests for lead.

The orange-flower water of commerce is a saturated solution of the essential oil of the fresh flowers.

AQUA CAMPHORÆ.

Camphor Water.

	IMPERIAL	METRIC
Camphor . .	70 grains .	5 grammes
Alcohol (90 per cent.)	a sufficient quantity	
Distilled Water . .	1 gallon .	5 litres

Dissolve the Camphor in a sufficient quantity of the Alcohol to form half a fluid ounce (or fifteen cubic centimetres) of the solution; add this in successive portions to the Distilled Water, shaking after each addition; finally agitate occasionally until all the Camphor is dissolved.

AQUA CARUI.

Caraway Water.

	IMPERIAL	METRIC
Caraway Fruit . . .	1 pound .	500 grammes
Water	2 gallons .	10 litres

Distil one-half.

AQUA CHLOROFORMI.

Chloroform Water.

	IMPERIAL	METRIC
Chloroform .	30 minims	2·5 cubic centimetres
Distilled Water, sufficient to produce	25 fluid ounces .	1000 cubic centimetres

Shake them together until the Chloroform is dissolved.

This preparation contains half the proportion of Chloroform present in the corresponding preparation of the British Pharmacopœia 1885.

AQUA CINNAMOMI.

Cinnamon Water.

	IMPERIAL	METRIC
Cinnamon Bark, bruised .	1 pound .	500 grammes
Water	2 gallons .	10 litres

Distil one-half.

AQUA DESTILLATA.

Distilled Water.

Prepared by distillation from good natural potable water.

Characters and Tests.—Colourless, tasteless, and odourless. 25 cubic centimetres evaporated in a platinum capsule should leave at most a scarcely visible residue (absence of dissolved solids). It should yield no reaction with the tests for the various metals, chlorides, nitrates, nitrites, or sulphates. It should not affect *litmus paper* (absence of acid or alkaline matter). The liquid obtained on boiling 100 cubic centimetres for three minutes with 1·0 cubic centimetre of *diluted sulphuric acid* and 0·1 cubic centimetre of a mixture of one part of *solution of potassium permanganate* and two parts of *water*, should retain its colour for one hour (absence of more than traces of organic matter). 100 cubic centimetres mixed with 2 cubic centimetres of *solution of potassio-mercuric iodide*, should not afford a yellow tint more intense than that given by 0·25 cubic centimetre of *solution of ammonium chloride* (*Nessler's*) diluted with 50,000 cubic centimetres of ammonia-free *water* when viewed, under similar conditions, in a glass tube having a diameter of one inch (25 millimetres) (absence of more than 0·005 part of ammonia per million parts).

AQUA FŒNICULI.

Fennel Water.

Grnd

	IMPERIAL	METRIC
Fennel Fruit . . .	1 pound .	500 grammes
Water	2 gallons .	10 litres

Distil one-half.

AQUA LAUROCERASI.

Cherry-Laurel Water.

	IMPERIAL	METRIC
Fresh Cherry-Laurel Leaves	1 pound	320 grammes
Water	2½ pints	1000 cubic centimetres

Place the crushed Cherry-Laurel Leaves with the water in a retort; distil one pint (or four hundred cubic centimetres) of liquid; shake the product; filter, if necessary; adjust the strength of the finished product either by adding hydrocyanic acid or by diluting the distillate with Distilled Water, so that, when tested as described under 'Acidum Hydrocyanicum Dilutum,' it shall contain one-tenth per cent. of hydrocyanic acid, HCN.

Dose.—½ to 2 fluid drachms.

AQUA MENTHÆ PIPERITÆ.

Peppermint Water.

	IMPERIAL	METRIC
Oil of Peppermint	77 minims	10 cubic centimetres
Water	1½ gallons	15 litres

Distil two-thirds.

AQUA MENTHÆ VIRIDIS.

Spearmint Water.

	IMPERIAL	METRIC
Oil of Spearmint	77 minims	10 cubic centimetres
Water	1½ gallons	15 litres

Distil two-thirds.

AQUA PIMENTÆ.

Pimento Water.

	IMPERIAL	METRIC
Pimento, bruised	8 ounces	250 grammes
Water	2 gallons	10 litres

Distil one-half.

AQUA ROSÆ.

Rose Water.

The rose water of commerce, prepared by distillation from the flowers of Rosa damascena, *Linn.* [*Redouté, Les roses*, plate 109], diluted, immediately before use, with twice its volume of Distilled Water.

The rose water of commerce is a saturated solution of the essential oil of the rose flowers.

AQUA SAMBUCI.

Elder-flower Water.

omit

	IMPERIAL	METRIC
Fresh Elder Flowers (or an equivalent quantity of the flowers preserved, while fresh, with common salt)	. 10 pounds	. 5000 grammes
Water	. 5 gallons	. 25 litres

Distil one-fifth.

ARAROBA.

Araroba.

Synonyms.—Goa Powder; Crude Chrysarobin.

A substance found in cavities in the trunk of Andira Araroba, *Aguiar.* [*Pharm. Journ.* ser. 3, vol. x. p. 43, plate], freed as much as possible from fragments of wood, dried, and powdered.

Characters and Test.—The powder varies in colour from brownish-yellow to umber-brown. It should yield to hot *chloroform* not less than 50 per cent. of a substance which, on evaporating the chloroform from the filtrate, and drying and powdering the residue, should have the characters of Chrysarobin.

ARGENTI NITRAS.

Silver Nitrate.

Synonym.—Lunar Caustic.

A salt, $AgNO_3$, prepared by the interaction of nitric acid and silver.

Characters and Tests.—In colourless tabular crystals, the primary form of which is the right rhombic prism; soluble in less than its own weight of cold *water*, slightly soluble in *alcohol* (90 per cent.); soluble in *ether* and *glycerin*. It affords the reactions characteristic of silver and of nitrates. 1 gramme dissolved in 15 cubic centimetres of *water* affords with *hydrochloric acid* a precipitate, which, when thoroughly washed and dried, should weigh 0·843 gramme. The filtrate, when evaporated to dryness on a water-bath, should leave no residue. Silver Nitrate should yield no characteristic reaction with the tests for lead, copper, iron, sodium, potassium, or sulphates.

Dose.—$\frac{1}{4}$ to $\frac{1}{2}$ grain.

ARGENTI NITRAS INDURATUS.

Toughened Caustic.

	IMPERIAL	METRIC
Silver Nitrate . .	475 grains .	95 grammes
Potassium Nitrate .	25 grains .	5 grammes

Fuse and mix thoroughly in a capsule of platinum or thin porcelain, and pour the melted mass into proper moulds.

Characters and Tests.—White or greyish-white cylindrical rods or cones; freely soluble in *water*, but only sparingly so in *alcohol* (90 per cent.). It affords the reactions characteristic of silver, of potassium, and of nitrates. 1 gramme, dissolved in 15 cubic centimetres of *water*, should yield with *hydrochloric acid* a precipitate which, when washed and dried, should weigh 0·8 gramme, and the filtrate when evaporated should leave a white residue.

ARGENTI NITRAS MITIGATUS.

Mitigated Caustic.

	IMPERIAL	METRIC
Silver Nitrate . .	. 1 ounce .	20 grammes
Potassium Nitrate	. 2 ounces .	40 grammes

Fuse and mix thoroughly in a capsule of platinum or thin porcelain, and pour the melted mass into proper moulds.

Characters and Tests.—White or greyish-white cylindrical rods or cones; freely soluble in *water*, but only sparingly so in *alcohol* (90 per cent.). It affords the reactions characteristic of silver, of potassium, and of nitrates. 3 grammes dissolved in 15 cubic centimetres of *water* should afford with *hydrochloric acid* a precipitate, which, after washing with hot *water* and drying, weighs 0·843 gramme.

ARGENTI OXIDUM.

Silver Oxide.

Silver Oxide, Ag_2O, is prepared by mixing solutions of silver nitrate and calcium hydroxide.

Characters and Tests.—A brown powder, which at a low red heat gives off oxygen and yields metallic silver. It dissolves in *nitric acid* without the evolution of any reddish fumes (absence of metallic silver). Each gramme, dissolved in *nitric acid*, should yield with *hydrochloric acid* a precipitate, which, when thoroughly washed and dried, weighs 1·237 grammes. It should yield no characteristic reaction with the tests for lead, copper, or iron. Silver Oxide is liable to decompose with violence when mixed with creosote, phenol, potassium permanganate, and many other substances.

Dose.—½ to 2 grains.

ARMORACIÆ RADIX.

Horseradish Root.

The fresh root of Cochlearia Armoracia, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. i. plate 21], collected from cultivated plants.

Characters.—Nearly cylindrical, except at the crown, where it is somewhat enlarged, and marked with closely approximated semi-amplexicaul leaf-scars. It is from half an inch to about an inch (twelve to twenty-five millimetres) in diameter, and commonly a foot (thirty centimetres) or more in length; pale yellowish-white or brownish-white externally, whitish within. Inodorous when unbroken, but exhaling a characteristic pungent odour when scraped or bruised; taste very pungent.

ARNICÆ RHIZOMA.

Arnica Rhizome.

Synonym.—Arnicæ Radix.

The dried rhizome and roots of Arnica montana, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. iii. plate 158].

Characters.—The rhizome is cylindrical, horizontal, and dark brown in colour. It usually varies from one to two inches (two and a half to five centimetres) in length, and from a sixth to a quarter of an inch (four to six millimetres) in thickness. It is curved, rough, bears amplexicaul leaf-scars, is beset on its under surface with numerous brittle wiry roots, and is usually terminated by the hairy remains of the stem and leaves. The transverse section exhibits a number of resin-ducts near the inner margin of the cortex. Odour faintly aromatic, taste acrid and bitter.

ARSENII IODIDUM.

Arsenious Iodide.

Arsenious Iodide, AsI_3, may be obtained by the direct combination of iodine and arsenium.

Characters and Tests.—Small orange-coloured crystals, or crystalline masses, soluble in *water* and in *alcohol* (90 per cent.). Its aqueous solution affords the reactions characteristic of arsenium and of iodides, and should not change the colour of *solution of litmus*. Heated in a test-tube it entirely volatilises, violet vapours of iodine being set free.

Dose.—$\frac{1}{20}$ to $\frac{1}{5}$ grain.

ASAFETIDA.

Asafetida.

A gum-resin obtained by incision from the root of Ferula fœtida, *Regel* [*Trans. Linn. Soc.*, Ser. 2, Bot. vol. iii. plates 12–14]; and probably other species.

Characters and Tests.—In rounded or flattened tears usually varying in size from half to one inch (twelve to twenty-five millimetres) in diameter, more or less agglutinated. They are dull yellow in colour, and darken on keeping. When fresh the tears are usually tough at ordinary temperatures, but become hard in cold weather. Internally they are yellowish and translucent or milky white and opaque, the freshly exposed surfaces gradually assuming a pink colour which changes to red and finally to reddish-brown. The odour is strong, alliaceous, and persistent; the taste bitter, acrid, and alliaceous. When triturated with *water* Asafetida forms a white emulsion. The freshly fractured surface of a tear touched with *nitric acid* diluted with an equal volume of *water* assumes for a short time a more or less distinct green colour. If a small fragment be strongly heated in a dry test-tube, the contents of the tube, after cooling, yield with boiling *water* a solution which when largely diluted and made alkaline with *solution of ammonia* exhibits a blue fluorescence. Asafetida should contain not less than 65 per cent. of matter soluble in *alcohol* (90 per cent.), and should yield not more than 10 per cent. of ash when incinerated.

Dose.—5 to 15 grains.

ATROPINA.

Atropine.

An alkaloid, $C_{17}H_{23}NO_3$, obtained from Belladonna Leaves or Root.

Characters and Tests.—In colourless acicular crystals, soluble in 300 parts of *water*, readily soluble in *alcohol* (90 per cent.), in *chloroform*, and in *ether*. Its solution in *water* has an alkaline reaction, a bitter taste, and when applied to the eye powerfully dilates the pupil. Melting point 239° to 240° F. (115° to 115·5° C.). The alcoholic solution, on warming with *test-solution of mercuric chloride*, yields a yellow precipitate which soon turns red. The aqueous solution yields with *solution of auric chloride* a citron-yellow precipitate, which when recrystallised from boiling *water* acidulated with *hydrochloric acid* has a minutely crystalline character, and when dry a dull pulverulent appearance (distinction from hyoscyamine). When moistened with *fuming nitric acid* and evaporated to dryness on a water-bath, the residue gives with freshly prepared alcoholic solution of *potassium hydroxide* a fugitive reddish-violet coloration. It leaves no ash when burned with free access of air (absence of mineral matter).

Dose.—$\frac{1}{200}$ to $\frac{1}{100}$ grain.

ATROPINÆ SULPHAS.

Atropine Sulphate.

Atropine Sulphate, $(C_{17}H_{23}NO_3)_2H_2SO_4$, may be obtained by neutralising Atropine with Diluted Sulphuric Acid.

Characters and Tests.—A nearly colourless, crystalline substance, soluble in 10 parts of *alcohol* (90 per cent.) and in 1 part of cold *water*, forming solutions which are neutral to *litmus*, and which, even when considerably diluted, if applied to the eye will dilate the pupil. It is insoluble in *ether* and in *chloroform*. It yields the characteristic reactions with the tests for sulphates. Melting point 361·4° F. (183° C.). A saturated aqueous solution yields with *solution of sodium carbonate* a white precipitate, which, when separated, responds to the tests described under 'Atropina.' It leaves no ash when burned with free access of air (absence of mineral matter).

Dose.—$\frac{1}{200}$ to $\frac{1}{100}$ grain.

AURANTII CORTEX RECENS.

Fresh Bitter-Orange Peel.

The fresh outer part of the pericarp of Citrus Aurantium, var. Bigaradia, *Hook. f.* [*Bentl. and Trim. Med. Pl.* vol. i. plate 50].

Characters.—Externally deep orange-red or red in colour, and generally rough and glandular. On its inner surface there should only be a very small amount of the white spongy portion of the pericarp. Odour pleasant and aromatic, taste bitter.

AURANTII CORTEX SICCATUS.

Dried Bitter-Orange Peel.

The dried outer part of the pericarp of Citrus Aurantium, var. Bigaradia, *Hook. f.*

Characters.—In thin strips. The outer surface is deep orange-red in colour, rough and glandular. On its inner surface there should only be a very small amount of the white spongy portion of the pericarp. Odour pleasant and aromatic, taste bitter.

BALSAMUM PERUVIANUM.

Balsam of Peru.

A balsam exuded from the trunk of Myroxylon Pereiræ, *Klotzsch* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 83], after the bark has been beaten and scorched.

Characters and Tests.—A viscid liquid, in bulk nearly black, but in thin layers deep orange-brown or reddish-brown, and transparent. It has an agreeable balsamic odour and an acrid taste; when swallowed it leaves a burning sensation in the throat. It is insoluble in *water*, but soluble in *chloroform*. 1 volume is soluble in 1 volume of *alcohol* (90 per cent.), but on the further addition of 2 or more volumes of the *alcohol*, the mixture becomes turbid. Specific gravity between 1·137 and 1·150. 10 drops triturated with 0·4 gramme of *lime* produce a permanently soft mixture (absence of copaiba and resins); and this, on being warmed until all volatile matter is given off and until charring commences, gives no fatty odour (absence of castor oil and other fatty oils). It should not diminish in volume when shaken with an equal bulk of *water* (absence of ethylic alcohol). About 40 per cent.

of resin should separate when one part of the Balsam is treated with three parts of *carbon bisulphide*; and the clear supernatant liquid should be of a pale brown colour with only a slight fluorescence (absence of gurjun balsam). If 5 grammes of the Balsam be shaken with 5 cubic centimetres of a solution of *sodium hydroxide* of specific gravity 1·16, and then washed with three successive quantities, each of 15 cubic centimetres, of Purified Ether, and the Ether removed, the residue (after cautious drying until the loss, in two weighings at 5 minutes' interval, does not exceed one centigramme) should weigh between 2·85 and 3 grammes. To this weighed residue 20 cubic centimetres of *normal volumetric alcoholic solution of potassium hydroxide* and 40 cubic centimetres of *alcohol* (90 per cent.) are to be added and the whole saponified under a reflux condenser for one hour. Thus treated, the residue above specified should combine with from 11·9 to 12·8 cubic centimetres of the *normal volumetric alcoholic solution of potassium hydroxide* (presence of a sufficient proportion of cinnamein). The amount of uncombined alkali may be determined in the usual way by means of titration with the *volumetric solution of sulphuric acid.*

Dose.—5 to 15 minims.

BALSAMUM TOLUTANUM.

Balsam of Tolu.

A balsam obtained by making incisions in the trunk of Myroxylon Toluifera, *H. B. and K.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 84].

Characters and Tests.—When first imported it is a soft and tenacious solid, which on keeping becomes harder, and then, in cold weather, is brittle. In thin films it is transparent and of a yellowish-brown colour. Pressed between pieces of glass with the aid of heat, it exhibits, when examined with a lens, an abundance of crystals. Odour highly fragrant, especially when warmed; taste somewhat aromatic and slightly acid. It is soluble in *alcohol* (90 per cent.) and the solution has an acid reaction. If 5 grammes are gently warmed with two successive portions of 25 and 10 cubic centimetres of *carbon bisulphide*, the solution should yield, when evaporated to dryness, a distinctly crystalline residue which should require not less than one-third of its weight of *potassium hydroxide* for its saponification (presence of a sufficient proportion of benzoates and cinnamates).

Dose.—5 to 15 grains.

BELLADONNÆ FOLIA.

Belladonna Leaves.

The fresh leaves and branches of Atropa Belladonna, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. iii. plate 193], collected when the plant is in flower.

Characters.—The leaves have short stalks, are alternate below but in unequal pairs above. They are from three to eight inches (eight to twenty centimetres) long, broadly ovate, acute, entire, and glabrous or nearly so. The corolla is gamopetalous, campanulate, and of a dingy purple colour. The transverse section of the leaf exhibits bi-collateral vascular bundles; the mesophyll contains numerous cells filled with very minute crystals of calcium oxalate.

BELLADONNÆ RADIX.

Belladonna Root.

The root of Atropa Belladonna, *Linn.*, collected in the autumn, and dried.

Characters.—In nearly cylindrical pieces, entire or longitudinally split, varying in diameter from about three-eighths to three-quarters of an inch (ten to twenty millimetres), and usually from six inches to a foot (fifteen to thirty centimetres) or more in length. Externally it is of a pale greyish-brown colour, and is finely wrinkled longitudinally. The transverse fracture is short, and internally the root is whitish and starchy. Within and mostly near to the cambium ring are numerous scattered groups of vessels and fibres which should not exhibit a prominently radiate arrangement. Most of the parenchymatous cells contain small compound starch grains, and some are filled with numerous very minute crystals of calcium oxalate.

BENZOINUM.

Benzoin.

A balsamic resin obtained from Styrax Benzoin, *Dryand.* [*Bentl. and Trim. Med. Pl.* vol. iii. plate 169]; and probably from other species of Styrax, *Linn.* Known in commerce as Siam and Sumatra benzoin.

Characters.—In flat or curved tears varying in size, but seldom exceeding two inches (five centimetres) in length and half an inch (twelve millimetres) in thickness, yellowish or reddish-brown externally, milky white internally; or in masses composed of tears more or less closely agglutinated by a reddish-brown translucent, or greyish-brown opaque, resinous intervening substance. It is brittle but softens readily when warmed, and when further heated yields fumes of benzoic acid. It has an agreeable odour, recalling that of vanilla in the case of Siam benzoin, and of storax in the case of Sumatra benzoin. It is almost entirely soluble in *alcohol* (90 per cent.) and in *solution of potassium hydroxide.*

BENZOL.

Benzol.

A mixture of homologous hydrocarbons obtained from light coal-tar oil. It contains about 70 per cent. of benzene, C_6H_6, and 20 to 30 per cent. of toluene, C_6H_5,CH_3.

Characters.—A colourless volatile liquid free from opalescence, with a strong characteristic odour. Specific gravity from 0·880 to 0·888. It should begin to distil at 176° F. (80° C.), and about 90 per cent. of the whole should pass over at a temperature below 212° F. (100° C.). It should wholly distil below 248° F. (120° C.).

BISMUTHI CARBONAS.

Bismuth Oxycarbonate.

Bismuth Oxycarbonate, $(Bi_2O_2CO_3)_2,H_2O$, may be prepared by the interaction of bismuth nitrate and ammonium carbonate.

Characters and Tests.—A whitish powder, the general chemical characters and reactions of which are similar to those of Bismuth Oxide and Bismuth Oxynitrate. All three compounds are heavy powders insoluble in *water*, but soluble in *nitric acid* diluted with half its bulk of *water*. Each yields the reactions characteristic of bismuth. When either is dissolved in a little *hydrochloric acid*, the solution diluted with *water* slightly acidulated with the same acid, and then excess of *hydrogen sulphide* passed through the liquid, a brownish-black precipitate of bismuth sulphide falls. This precipitate, when rapidly washed on a counterpoised filter with *water*, and quickly dried at 212° F. (100° C.), serves for the estimation of the amount of bismuth present in the compound. These bismuth salts, when suitably treated, should yield no characteristic reaction with the tests for silver, lead, copper, arsenium, iron, zinc, calcium, magnesium, chlorides, or sulphates, nor with the tests for selenium or tellurium. Bismuth Oxycarbonate affords the reactions characteristic of carbonates, but not more than the slightest reactions with the tests for nitrates. Each gramme of it should yield 0·99 gramme of bismuth sulphide when treated as described above.

Dose.—5 to 20 grains.

BISMUTHI OXIDUM.

Bismuth Oxide.

Bismuth Oxide, Bi_2O_3, may be prepared by boiling bismuth oxynitrate with solution of sodium hydroxide.

Characters and Tests.—A slightly brownish-yellow powder. It should answer to the general characters and tests enumerated under 'Bismuth Oxycarbonate.' Each gramme should yield 1·1 grammes of bismuth sulphide. Heated to incipient redness it is scarcely diminished in weight (absence of bismuth oxycarbonate, bismuth oxynitrate, and moisture).

Dose.—5 to 20 grains.

BISMUTHI SALICYLAS.

Bismuth Salicylate.

Bismuth Salicylate, or oxysalicylate, $C_6H_4{\cdot}OH{\cdot}COO{\cdot}BiO$, may be prepared by the interaction of bismuth nitrate and sodium salicylate.

Characters and Tests.—A white or nearly white amorphous powder, insoluble in *water*. It affords the reactions characteristic of bismuth. Diluted *test-solution of ferric chloride* is coloured violet when Bismuth Salicylate is introduced. It should yield only the faintest characteristic reaction with the copper test for nitrates. *Alcohol* (90 per cent.), with which Bismuth Salicylate has been shaken, should not give a violet colour with *test-solution of ferric chloride* (absence of free salicylic acid). Decomposed by heating with *solution of sodium carbonate*, the liquid portion of the resulting mixture, if containing not less than 1 per cent. of salicylate, affords a yellowish-brown precipitate on the addition of *solution of uranium nitrate* (distinction from carbolates and sulphocarbolates). Each gramme of Bismuth Salicylate should yield 0·7 gramme of bismuth sulphide. When heated, salicylic acid volatilises and 62 to 64 per cent. of bismuth oxide remains. It should be free from the impurities indicated under 'Bismuth Oxycarbonate.'

Dose.—5 to 20 grains.

BISMUTHI SUBNITRAS.

Bismuth Oxynitrate.

Bismuth Oxynitrate, $BiONO_3,H_2O$, is prepared by the interaction of bismuth nitrate and water.

Characters and Tests.—A heavy white inodorous powder consisting of minute crystalline scales, with not more than a slight action on *litmus*. It should answer to the general characters and tests enumerated under 'Bismuth

Oxycarbonate.' Each gramme should yield 0·84 gramme of bismuth sulphide. It should afford only the slightest reactions with the tests for carbonates. If 1 gramme be dissolved in *nitric acid* and the liquid mixed with a solution of about 2 grammes of *citric acid* and sufficient *solution of ammonia* to give decided alkalinity, no precipitate or opalescence should be produced by boiling the mixture while still faintly alkaline (absence of calcium phosphate).

Dose.—5 to 20 grains.

BORAX.

Borax.

Synonym.—Biborate of Sodium.

This salt, sodium pyroborate, $Na_2B_4O_7,10H_2O$, occurs native. It is also made artificially by neutralising native boric acid with sodium carbonate, or by boiling native calcium borate with solution of sodium carbonate.

Characters and Tests.—Transparent colourless crystals, sometimes slightly effloresced, with a weak alkaline reaction; insoluble in *alcohol* (90 per cent.), soluble in 25 times its weight of cold, and in half its weight of boiling *water*. It dissolves in its own weight of *glycerin*. It turns *turmeric paper* brown. It colours flame intensely yellow. A hot saturated solution, when acidulated with any of the mineral acids, lets fall, as it cools, a scaly crystalline deposit of boric acid, the solution of which in *alcohol* (90 per cent.) burns with a green flame. Each gramme dissolved in 200 cubic centimetres of *water* should require for neutralisation 5·2 cubic centimetres of the *volumetric solution of sulphuric acid*, using *methyl orange* as the indicator. It should yield no characteristic reaction with the tests for lead, copper, arsenium, iron, calcium, magnesium, carbonates, nitrates, or phosphates, and not more than the slightest characteristic reactions with the tests for chlorides or sulphates.

Dose.—5 to 20 grains.

BUCHU FOLIA.

Buchu Leaves.

The dried leaves of Barosma betulina, *Bart. and Wendl.* [*Bentl. and Trim. Med. Pl.* vol. i. plate 45].

Characters.—Usually varying in length from half to three-quarters of an inch (twelve to twenty millimetres), dull yellowish-green in colour, rhomboid-obovate in outline, rigid, and, when slightly moist, cartilaginous. The surface is glabrous and somewhat warty, the margin usually sharply denticulate, the apex blunt and recurved. Oil-glands are distinctly visible in the leaf, especially near the margin. The transverse section exhibits an epidermis whose cells contain yellow sphero-crystals; the inner walls of these cells are thick and rich in mucilage. Odour and taste strong and characteristic.

BUTYL-CHLORAL HYDRAS.

Butyl-Chloral Hydrate.

Butyl-Chloral Hydrate, or trichlorbutylidene glycol, $CH_3{\cdot}CHCl{\cdot}CCl_2{\cdot}CH(OH)_2$, is a crystalline hydrate obtained by the addition of water to the liquid butyl chloral produced by the action of chlorine gas on aldehyde.

Characters and Tests.—In pearly white, trimetric laminæ, having a pungent but not acrid odour, and an acrid nauseous taste. It fuses at about 172° F. (77·8° C.) to a transparent liquid, which, in cooling, commences to solidify at about 160° F. (71·1° C.). Soluble in about 50 parts of *water*, and in its own weight of *glycerin* or of *alcohol* (90 per cent.); it slowly dissolves in 20 parts of *chloroform*. The aqueous solution is neutral or but slightly acid to *litmus*. It does not yield chloroform when heated with *solution of potassium hydroxide* or with *milk of lime* (absence of chloral hydrate).

Dose.—5 to 20 grains.

Butyl-Chloral Hydrate was formerly known as croton-chloral hydrate.

CAFFEINA.

Caffeine.

Synonym.—Theine.

An alkaloid, $C_8H_{10}N_4O_2,H_2O$, usually obtained from the dried leaves of Camellia Thea, *Link* [*Bentl. and Trim. Med. Pl.* vol. i. plate 34], or the dried seeds of Coffea arabica, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 144]. Crystallised from aqueous solution, it contains one molecule of water.

Characters and Tests.—Colourless, silky, acicular, inodorous crystals. Soluble in 80 parts of cold *water*, the solution having a faintly bitter taste and being neutral to *litmus*. Easily soluble in boiling *water*, *alcohol* (90 per cent.), or *chloroform*; sparingly soluble in *ether*. It dissolves without colour in *sulphuric* and *nitric acids*. At 212° F. (100° C.) the crystals lose 8·49 per cent. of their weight, and at a higher temperature melt and volatilise without decomposition. Treated with a crystal of *potassium chlorate* and a few drops of *hydrochloric acid*, and the mixture evaporated to dryness in a porcelain dish, a reddish residue results, which becomes purple when moistened with *solution of ammonia*. In an aqueous solution of the alkaloid, *tannic acid* gives a white precipitate soluble in excess of the reagent, but no precipitate is caused by *solution of potassium iodide* containing mercuric iodide (distinction from other official alkaloids).

Dose.—1 to 5 grains.

CAFFEINÆ CITRAS.

Caffeine Citrate.

An unstable compound, $C_8H_{10}N_4O_2,C_6H_8O_7$, prepared from Caffeine and Citric Acid.

	IMPERIAL	METRIC
Caffeine . . .	1 ounce .	20 grammes
Citric Acid . .	1 ounce .	20 grammes
Distilled Water .	2 fl. ounces	40 cubic centimetres

Dissolve the Citric Acid in the Distilled Water; stir the Caffeine into the heated solution; evaporate to dryness on a water-bath, constantly stirring towards the end of the operation; reduce to a fine powder.

Characters and Tests.—A white inodorous powder with an acid and faintly bitter taste and an acid reaction on *litmus*. It is soluble in 32 parts of *water*, and also in a mixture of two parts of *chloroform* with one part of *alcohol* (90 per cent.). With 3 parts of *water* it forms a clear syrupy solution, but more *water* dissociates the salt and affords a white precipitate of caffeine which redissolves when excess of *water* is added. Heated in the air, the salt is charred and then burnt, leaving a mere trace of ash. It affords the reactions mentioned under 'Caffeina,' and also those characteristic of citrates.

Dose.—2 to 10 grains.

[illegible]

CAFFEINÆ ~~CITRAS~~ EFFERVESCENS.

Effervescent Caffeine Citrate.

	IMPERIAL	METRIC
Sodium Bicarbonate, in powder	51 ounces	510 grammes
Tartaric Acid, in powder	27 ounces	270 grammes
Citric Acid, in powder	18 ounces	180 grammes
Refined Sugar, in powder	14 ounces	140 grammes
Caffeine ~~Citrate~~	4 ounces	40 grammes

Mix the Caffeine Citrate, Tartaric Acid, and Citric Acid; with this product thoroughly incorporate the mixed Sodium Bicarbonate and Refined Sugar; place in a dish or pan of suitable form heated to between 200° and 220° F. (93·3° and 104·4° C.). When the mixture, by aid of careful manipulation, has assumed a granular character, separate it into granules of uniform and convenient size by means of suitable sieves. Dry the granules at a temperature not exceeding 130° F. (54·4° C.). The product should weigh about 100 ounces (or 1000 grammes).

Dose.—60 to 120 grains.

CALCII CARBONAS PRÆCIPITATUS.

Precipitated Calcium Carbonate.

Synonym.—Precipitated Chalk.

The precipitate, $CaCO_3$, obtained by the interaction of calcium chloride and sodium carbonate.

Characters and Tests.—A white micro-crystalline powder, insoluble in *water*. It affords the reactions characteristic of calcium and of carbonates. It should yield no characteristic reaction with the tests for iron, aluminium, phosphates, and sulphates, and only the slightest reactions with the tests for magnesium or chlorides.

Dose.—10 to 60 grains.

CALCII CHLORIDUM.

Calcium Chloride.

The salt, $CaCl_2,2H_2O$, formed by neutralising hydrochloric acid with calcium carbonate, carefully desiccated at a temperature not exceeding 392° F. (200° C.).

Characters and Tests.—In dry, white, very deliquescent masses, soluble in an equal weight of *water* and in 3 parts of *alcohol* (90 per cent.). It affords the reactions characteristic of calcium and of chlorides. It should yield no characteristic reaction with the tests for iron, aluminium, or carbonates, and only the slightest reactions with the tests for magnesium. It evolves no chlorine or hypochlorous acid on the addition of *hydrochloric acid* (absence of hypochlorite).

Dose.—5 to 15 grains.

CALCII HYDRAS.

Calcium Hydroxide.

[illegible]

Synonym.—Slaked Lime.

Calcium Hydroxide, $Ca(HO)_2$, recently prepared by the interaction of water and calcium oxide.

Characters and Tests.—It affords the reactions characteristic of calcium. Strongly heated it loses nearly one fourth of its weight of water. It should yield only the slightest characteristic reactions with the tests for iron, aluminium, magnesium, sodium, potassium, carbonates, chlorides, phosphates, sulphates, or silica.

CALCII HYPOPHOSPHIS.

Calcium Hypophosphite.

Calcium Hypophosphite, $Ca(PH_2O_2)_2$, is obtained by the interaction of phosphorus, calcium hydroxide, and water.

Characters and Tests.—A white crystalline salt, with a pearly lustre and a bitter nauseous taste. Soluble in 8 parts of cold *water*; insoluble in cold *alcohol* (90 per cent.). Heated to redness the crystals ignite, evolving spontaneously inflammable hydrogen phosphide and hydrogen, and leave a reddish-coloured residue. It affords the reactions characteristic of calcium. Its aqueous solution yields with *test-solution of mercuric chloride* a white precipitate turning grey. 0·25 gramme boiled for ten minutes with a solution of 0·6 gramme of *potassium permanganate* should yield, on filtration, a nearly colourless solution. The salt should yield no characteristic reaction with the tests for lead, copper, arsenium, iron, aluminium, magnesium, sodium, or potassium, and only the slightest reactions with the tests for chlorides or sulphates. It should afford little or no precipitate with *solution of lead acetate* (limit of phosphates and phosphites).

Dose.—3 to 10 grains.

CALCII PHOSPHAS.

Calcium Phosphate.

Calcium Phosphate may be prepared by dissolving bone ash in dilute hydrochloric acid, adding the liquid to dilute solution of ammonia, washing the precipitate with cold water, and drying the washed precipitate at a temperature not exceeding 212° F. (100° C.); or by the interaction of calcium chloride and sodium phosphate.

Characters and Tests.—A light white amorphous powder, insoluble in *water*, but soluble in *diluted hydrochloric acid* or *diluted nitric acid*; such a solution continues clear when a dilute solution of *sodium acetate* is added in excess (absence of calcium oxalate). It affords the reactions characteristic of calcium and of phosphates. Of the recently dried powder, 1 gramme dissolved in *diluted hydrochloric acid* yields, when added to a very slight excess of *diluted solution of ammonia*, a white precipitate weighing when washed with cold *water* and dried at 212° F. (100° C.) not less than 0·95 gramme. It should yield no characteristic reaction with the tests for lead, copper, arsenium, iron, aluminium, magnesium, carbonates, or silica, and only the slightest reactions with those for chlorides.

Dose.—5 to 15 grains.

CALUMBÆ RADIX.

Calumba Root.

The dried transversely cut slices of the root of Jateorhiza Columba, *Miers* [*Bentl. and Trim. Med. Pl.* vol. i. plate 13].

Characters.—In irregular flattish circular or somewhat oval slices, depressed towards the centre; from about an inch to two inches (two and a half to five centimetres) or more in diameter, and from one-eighth to half an inch (three to twelve millimetres) or more in thickness; more or less uniformly yellow in colour. The cork is brownish and wrinkled, the cortex thick, marked with radiating lines, and separated by a dark line from the wood, in which the vessels are arranged in narrow radially elongated groups. The parenchymatous tissue is largely developed, and contains numerous starch grains, mostly simple with eccentric hilum. The fracture is short, odour feeble, taste bitter.

CALX.

Lime.

Alkali

Calcium oxide, CaO; obtained by calcining chalk, limestone, or marble.

Characters and Tests.—In compact masses of a whitish colour, which readily absorb water, and which, when rather less than their weight of water is added, swell and fall to powder with the development of much heat. The powder obtained by this process of slaking, when agitated with *water*, gives, after filtration, a clear alkaline solution which affords the reactions characteristic of calcium. It should yield only the slightest characteristic reactions with the tests for iron, aluminium, magnesium, sodium, potassium, carbonates, chlorides, phosphates, sulphates, or silica.

CALX CHLORINATA.

Chlorinated Lime.

A product obtained by exposing slaked lime to the action of chlorine gas until absorption ceases.

Characters and Tests.—A dull white powder with a characteristic smell; it becomes moist and gradually decomposes on exposure to air. It is partially soluble in *water*. The solution affords the reactions characteristic of calcium and chlorides, decolourises *solution of indigo sulphate*, and evolves chlorine copiously upon the addition of an acid. 0·5 gramme of Chlorinated Lime, mixed with 1·5 grammes of *potassium iodide* dissolved in 200 cubic centimetres of *water*, produces, when acidulated with 6 cubic centimetres of *hydrochloric acid*, a reddish solution, which requires for the discharge of its colour at least 46·8 cubic centimetres of the *volumetric solution of sodium thiosulphate*, corresponding to 33 per cent. of available chlorine.

CALX SULPHURATA.

Sulphurated Lime.

A mixture containing not much less than fifty per cent. of calcium sulphide, CaS, with calcium sulphate and carbon. It may be prepared by reducing native calcium sulphate by means of carbon.

Characters and Tests.—A greyish-white powder with a smell of hydrogen sulphide. If 0·8 gramme be mixed with a cold solution of 1·4 grammes of *copper sulphate* in 50 cubic centimetres of *water*, and, after the addition of a little *hydrochloric acid*, the mixture be well stirred and heated to a temperature approaching that of ebullition until all action has ceased, and then filtered, the filtrate should give no red colour with *solution of potassium ferrocyanide* (presence of a due proportion of sulphide).

Dose.—¼ to 1 grain.

CAMBOGIA.

Gamboge.

[illegible]

A gum-resin obtained from Garcinia Hanburii, *Hook. f.* [*Bentl. and Trim. Med. Pl.* vol. i. plate 33].

Characters and Tests.—In cylindrical solid or hollow rolls, longitudinally striated on the surface, either distinct, or more or less agglutinated into masses; breaking with a conchoidal fracture, the fractured surface being dull, smooth, and of a uniform reddish-yellow colour; powder bright yellow; no odour; taste very acrid. When rubbed with *water* it forms a yellow emulsion; it is completely dissolved by the successive action of *alcohol* (90 per cent.) and *water*. When *solution of iodine* is added to a cooled aqueous decoction, the colour should not become distinctly green (absence of more than a trace of starch). When incinerated it should not yield more than 3 per cent. of ash.

Dose.—½ to 2 grains.

CAMPHORA.

Camphor.

A white crystalline substance obtained from Cinnamomum Camphora, *Nees and Eberm.* [*Bentl. and Trim. Med. Pl.* vol. iii. plate 222], purified by sublimation.

Characters.—In solid, colourless, transparent, crystalline pieces of tough consistence; also in rectangular tablets or in pulverulent masses known as 'flowers of camphor.' Specific gravity about 0·995. It has a powerful penetrating odour, and a pungent somewhat bitter taste, followed by a sensation of cold. It burns readily with a bright smoky flame, volatilises even at ordinary temperatures, and sublimes without residue when heated; it is soluble in about 700 parts of *water*, in about 1 part of *alcohol* (90 per cent.), in one quarter part of *chloroform*, and in 4 parts of *olive oil*; very soluble in *ether*. It forms a liquid when triturated with chloral hydrate, menthol, phenol, or thymol.

Dose.—2 to 5 grains.

CANNABIS INDICA.

Indian Hemp.

The dried flowering or fruiting tops of the female plant of Cannabis sativa, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. iv. plate 231], grown in India; from which the resin has not been removed.

Characters.—In compressed, rough, dusky-green masses, consisting of the branched upper part of the stem, bearing leaves and pistillate flowers or fruits, matted together by a resinous secretion. The upper leaves of the plant are simple, alternate, 1–3-partite; the lower are opposite and digitate, and consist of five to seven linear-lanceolate leaflets, with distantly serrate margins. The fruit is one-seeded and supported by an ovate-lanceolate bract. Both leaves and bracts bear external oleo-resin glands and one-celled curved hairs, the bases of which are enlarged and contain cystoliths.

CANTHARIS.

Cantharides.

The dried beetle, Cantharis vesicatoria, *Latr.* [*Brandt and Ratzeburg, Med. Zool.* vol. ii. tab. xviii. figs. 1, 2, 3].

Characters.—From about three-quarters of an inch to an inch (eighteen to twenty-five millimetres) long, and a quarter of an inch (six millimetres) broad, with two long elytra or wing-sheaths of a shining green or coppery-green colour, under which are two thin brownish transparent membranous wings; odour strong and disagreeable.

CAOUTCHOUC.

India-rubber.

The prepared milk-juice of Hevea brasiliensis, *Muell. Arg.*, and probably other species [*Collins's Report on Caoutchouc*, plate 1]; known in commerce as pure Para rubber.

Characters.—In elastic masses of varying thickness, brownish-black externally and mottled with a pale tint internally; insoluble in *water* ethylic alcohol, alkaline solutions, or dilute acids, soluble in *chloroform, oil of turpentine, carbon bisulphide, benzol,* and *petroleum spirit.* When heated to about 257° F. (125° C.) it melts, remaining soft and adhesive after cooling. Odour characteristic, somewhat empyreumatic; nearly tasteless.

CAPSICI FRUCTUS.

Capsicum.

The dried ripe fruit of Capsicum minimum, *Roxb.* [*Bentl. and Trim. Med. Pl.* vol. iii. plate 188].

Characters and Test.—Dull orange-red, oblong-conical, obtuse, two-celled fruits, from about one half to three-quarters of an inch (twelve to twenty millimetres) in length and a quarter of an inch (six millimetres) in diameter; sometimes attached to a five-toothed inferior calyx, and a long, straight, slender peduncle. The pericarp is somewhat shrivelled, glabrous, translucent, and leathery, and contains from ten to twenty small flat seeds, either loose or attached to a thin reddish dissepiment. Odour characteristic; taste intensely pungent. On incineration Capsicum should not yield more than 6 per cent. of ash.

CARBO LIGNI.

Wood Charcoal.

The carbonaceous residue of wood charred by exposure to a red heat without access of air.

Characters and Test.—A black powder without taste or odour, free from gritty matter. When burned at a high temperature with free access of air, it should not leave more than 7½ per cent. of ash.

Dose.—60 to 120 grains.

CARBONIS BISULPHIDUM.

aplecuitr

Carbon Bisulphide.

Synonym.—Carbon Disulphide.

Carbon Bisulphide, CS_2, may be prepared by the combination of carbon and sulphur at a high temperature, the product being subsequently condensed and purified.

Characters and Tests.—A clear, colourless, highly refractive liquid, having a characteristic but not fetid odour. Specific gravity 1·268 to 1·269. Boiling point 114·8° to 116·6° F. (46° to 47° C.). Very slightly soluble in *water*, soluble in *alcohol, ether, chloroform*, and the fixed and volatile oils. It evaporates rapidly at ordinary temperatures, and is highly inflammable, burning with a blue flame and producing carbonic and sulphurous anhydrides. It should not affect the colour of *blue litmus-paper* moistened with *water*. Evaporated spontaneously in a glass vessel, it should leave no residue (absence of sulphur). Shaken with *solution of lead acetate*, the latter should not be blackened (absence of hydrogen sulphide).

CARDAMOMI SEMINA.

Cardamom Seeds.

The dried ripe seeds of Elettaria Cardamomum, *Maton* [*Bentl. and Trim. Med. Pl.* vol. iv. plate 267]. The seeds should be kept in their pericarps and separated when required for use.

Characters and Test.—The fruits usually vary from two-fifths to four-fifths of an inch (one to two centimetres) in length; they are ovoid or oblong in shape, bluntly triangular in section, and shortly beaked at the apex, pale buff in colour, and longitudinally striated. The Seeds are dark reddish-brown in colour, about one-eighth of an inch (three millimetres) in length, and the same in breadth and thickness, irregularly angular, transversely wrinkled, and enclosed in a thin, colourless, membranous aril. Odour and taste agreeably warm and aromatic. Incinerated they should not yield more than 4 per cent. of ash.

CARUI FRUCTUS.

Caraway Fruit.

The dried fruit of Carum Carvi, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 121].

Characters and Test.—Mericarps usually separate; each from about one-sixth to one-fourth of an inch (four to six millimetres) long, and about one-twenty-fifth of an inch (one millimetre) broad; brown in colour with paler primary ridges, slightly curved, tapering towards each end and glabrous. The transverse section of each mericarp exhibits six vittæ. Odour aromatic; taste aromatic and agreeable. When incinerated the Fruit should not yield more than 8 per cent. of ash.

CARYOPHYLLUM.

Cloves.

The dried flower-buds of Eugenia caryophyllata, *Thunb.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 112].

Characters and Test.—About five-eighths of an inch (fifteen millimetres) long, each consisting of a dark-brown, wrinkled, subcylindrical, somewhat angular calyx tube, which tapers below and is surmounted by four thick, rigid, patent teeth, between which are four paler imbricated petals enclosing numerous stamens and a single style. Odour strong, fragrant, and spicy; taste very pungent and aromatic. Cloves should emit oil when indented with the finger-nail. Incinerated they should not yield more than 7 per cent. of ash.

CASCARA SAGRADA.

Cascara Sagrada.

Synonyms.—Rhamni Purshiani Cortex; Sacred Bark.

The dried bark of Rhamnus purshianus, *DC.* [*Sargent, Silva*, vol. ii. plate 62].

Characters.—In quilled, channelled, or nearly flat pieces frequently about four inches (ten centimetres) long, three-quarters of an inch (eighteen millimetres) wide, and about one-sixteenth of an inch (one millimetre and a half) thick. It possesses a nearly smooth dark purplish-brown cork, marked with scattered, transversely elongated lenticels, but usually more or less covered with patches of silvery-grey lichen; and when these are removed the exposed cork is of a brownish-red colour. The inner surface is reddish-brown with faint transverse corrugations, and longitudinal striations. The fracture is short, and near the inner surface somewhat fibrous. The bark has a characteristic but not powerful odour, and a persistent, nauseous, and bitter taste.

CASCARILLA.

Cascarilla.

The dried bark of Croton Eluteria, *J. J. Bennett* [*Bentl. and Trim. Med. Pl.* vol. iv. plate 238].

Characters.—In quills, from one to three inches (two and a half to seven and a half centimetres) or more in length, and from about one-sixth to half an inch (four to twelve millimetres) in diameter, or in small curved pieces. The outer layer consists of a dull-brown or dark-grey longitudinally wrinkled cork, frequently marked with small longitudinal and transverse cracks, and more or less completely covered with silvery-grey patches spotted with minute black dots; it easily separates, disclosing a brown or dark-grey inner layer marked with longitudinal and transverse furrows. Fracture short, and resinous; the transverse section exhibits under a lens dark reddish-brown bast traversed by thin whitish medullary rays, but no groups of sclerenchymatous cells. It has an agreeable aromatic odour, especially when burned, and an aromatic, bitter taste.

CASSIÆ PULPA.

Cassia Pulp.

The pulp obtained from the pods of Cassia Fistula, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 87].

Characters.—The pods are from a foot and a half to two feet (thirty-five to fifty centimetres) long, and from three-quarters to one inch (eighteen to twenty-five millimetres) in diameter. They are nearly cylindrical in shape, shortly stalked, blackish-brown, very hard, indehiscent, the sutures being marked by two smooth longitudinal bands. They are divided internally by thin transverse partitions into numerous cells, each containing a smooth flattish-oval reddish-brown seed, surrounded by pulp. The Pulp, which alone is official, is viscid and nearly black, with a faint odour and sweet taste.

CATECHU.

Catechu.

Synonym.—Catechu Pallidum.

An extract of the leaves and young shoots of Uncaria Gambier, *Roxb.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 139].

Characters and Tests.—In cubes which are sometimes more or less agglutinated. Each side measures about an inch (twenty-five millimetres). They are deep reddish-brown externally, pale cinnamon-brown internally, porous and friable. When examined under the microscope they are found to consist chiefly of minute acicular crystals. Taste at first bitter and very astringent, but subsequently sweetish; no odour. Almost entirely soluble in boiling *water*. 70 per cent. should be soluble in *alcohol* (90 per cent.). Catechu should not afford any characteristic reaction with the tests for starch, and should not yield more than 5 per cent. of ash when incinerated.

Dose.—5 to 15 grains.

CERA ALBA.

White Beeswax.

Yellow Beeswax which has been bleached by exposure to moisture, air, and light.

Characters and Tests.—Hard, nearly white, translucent masses. It should respond to the tests for Yellow Beeswax.

CERA FLAVA.

Yellow Beeswax.

Prepared from the honeycomb of the Hive Bee, Apis mellifica, *Linn.* [*Brandt and Ratzeburg, Med. Zool.* vol. ii. tab. xxiv.]

Characters and Tests.—Firm, breaking with a granular fracture, yellowish, having an agreeable honey-like odour. Not unctuous to the touch. It should be readily and entirely soluble in hot *oil of turpentine*. It should not yield more than 3 per cent. to cold *alcohol* (90 per cent.), nor more than 50 per cent. to cold *ether*, and nothing to *water* or to boiling *solution of sodium hydroxide*, the two latter liquids after filtration neither being turbid nor yielding a precipitate on the addition of *hydrochloric acid* (absence of fatty acids, resin, and Japan wax). Specific gravity 0·960 to 0·970. Melts at 144·5° to 147° F. (62·5° to 63·9° C.) when tested in the following manner. Liquefy a small piece, and draw a little of the liquid Beeswax up into a capillary tube of not more than one millimetre in internal diameter; after it has been allowed to cool for three hours, fix a piece of the filled capillary tube to the bulb of a thermometer by thread; immerse the bulb and tube in a beaker of water, and heat the latter gradually on a water bath; at the moment the opaque rod of Beeswax becomes transparent, note the temperature. The solidifying point is two to three degrees lower than the melting point. 5 grammes of the Beeswax, melted in and mixed with boiling *alcohol* (90 per cent.), should require for neutralisation not less than 1·6 cubic centimetres of *normal alcoholic volumetric solution of potassium hydroxide*, using *phenol-phthalein* as an indicator. Upon the further addition of 20 cubic centimetres of the volumetric solution, and well boiling for one hour under a reflux condenser, not less than 6·2 nor more than 6·8 cubic centimetres should be found to have combined with the Beeswax, as shown by the titration of the uncombined alkali with *volumetric solution of sulphuric acid.* If 5 grammes of Beeswax are heated for fifteen minutes with 25 grammes of *sulphuric acid* to 320° F. (160° C.) and the mixture diluted with *water*, no solid waxlike body should separate (absence of paraffin). Beeswax should not yield any characteristic reaction with the tests for starch.

CERII OXALAS.

Cerium Oxalate.

Cerium Oxalate, $Ce_2(C_2O_4)_3,9H_2O$, may be obtained by interaction of a soluble cerium salt and a soluble oxalate. It usually contains some lanthanum oxalate and didymium oxalate.

Characters and Tests.—An almost white granular powder, insoluble in *water*, decomposed at a dull red heat, yielding a reddish-brown powder which dissolves completely and without effervescence in boiling *hydrochloric acid*; the resulting solution gives with a saturated solution of *potassium sulphate* a white crystalline precipitate. When incinerated it loses 53 per cent. in weight. It should yield no characteristic reaction with the tests for arsenium, iron, aluminium, zinc, calcium, carbonates, or phosphates.

Dose.—2 to 10 grains.

CETACEUM.

Spermaceti.

[illegible]

A concrete fatty substance, obtained, mixed with oil, from the head of the Sperm Whale, Physeter macrocephalus, *Linn.* [*Brandt and Ratzeburg, Med. Zool.* vol. ii. tab. ix. fig. 3]. It is separated from the oil by filtration and pressure, and is afterwards purified.

Characters and Tests.—In crystalline, pearly-white, glistening masses, which are translucent, slightly unctuous to the touch, and have little taste or odour. It is reducible to powder by the aid of a little *alcohol* (90 per cent.). It is insoluble in *water*, and nearly insoluble in cold *alcohol* (90 per cent.), but soluble in *ether*, *chloroform*, boiling *alcohol* (90 per cent.), and in fixed and volatile oils. Melting point 114·8° to 122° F. (46° to 50° C.) when tested by the method described under 'Cera Flava.' 0·2 gramme dissolved, by the aid of a water-bath, in 20 cubic centimetres of *alcohol* (90 per cent.), two drops of *solution of phenol-phthalein* being added, should not require more than one drop of *volumetric solution of sodium hydroxide* to produce a permanent red colour (limit of acidity). Boiled with *alcohol* (90 per cent.), and the mixture cooled and filtered, the filtrate should not afford a flocculent precipitate on the addition of *water* (absence of stearic acid).

CHARTA SINAPIS.

Mustard Paper.

Black and White Mustard Seeds . .	. equal proportions by weight
Benzol . . . Solution of India-rubber . . .	. of each, a sufficient quantity

Bruise the Mustard Seeds and extract the fixed oil by percolation with the Benzol. Dry the residue by exposure to the air in a warm closet, and reduce to No. 60 powder. Mix seventy-five grains (or five grammes) of the purified mustard with five fluid drachms (or eighteen cubic centimetres) of Solution of India-rubber, and spread by means of a suitable brush over about 30 square inches (or about two square decimetres) of one side of a piece of cartridge paper. Allow it to dry by exposure to the air.

CHIRATA.

Chiretta.

The dried plant, Swertia Chirata, *Ham.* [*Bentl. and Trim. Med. Pl.* vol. iii. plate 183], collected when in flower.

Characters.—Stem three feet or more (about a metre) in length, smooth, brown or purplish-brown in colour, slightly winged and much branched above, rounded below, and containing a large, continuous, easily separable pith. Branches slender, elongated, decussate. Leaves opposite, ovate, glabrous, entire, usually with three to seven lateral veins. Flowers small, numerous, panicled. Fruits superior, bicarpellary, unilocular. No odour; taste extremely bitter.

CHLORAL HYDRAS.

Chloral Hydrate.

Chloral Hydrate, or trichlorethylidene glycol, $CCl_3{\cdot}CH(OH)_2$, is obtained by the addition of water to the liquid chloral produced by the action of dry chlorine gas on ethylic alcohol.

Characters and Tests.—In colourless, monoclinic plates, which do not deliquesce on exposure to air. It has a pungent but not an acrid odour, and a pungent and rather bitter taste. Soluble in less than its own weight of *water*, *alcohol* (90 per cent.), or *ether*, and in four times its weight of *chloroform*. The aqueous solution is neutral or but slightly acid to *litmus*. On the application of heat Chloral Hydrate fuses to a colourless liquid, which, as it cools, begins to solidify at a temperature of about 120° F. (48·9° C.). In a test-tube it boils, when pieces of broken glass are immersed in it, at from 202° to 206° F. (94·4° to 96·7° C.), and on platinum foil at a slightly higher temperature it volatilises without residue. In presence of alkaline substances Chloral Hydrate is decomposed and chloroform is liberated. If 4 grammes be heated with 30 cubic centimetres of the *volumetric solution of sodium hydroxide*, no more than 6 cubic centimetres of the *volumetric solution of sulphuric acid* should be required to neutralise the soda which remains free on the completion of the reaction. A solution in *chloroform*, when mixed by agitation with *sulphuric acid*, does not impart colour to the acid (absence of certain organic impurities). When 1 gramme of Chloral Hydrate is warmed with 6 cubic centimetres of *water*, and 0·5 cubic centimetre of *solution of potassium hydroxide*, the mixture filtered, sufficient *solution of iodine* added to impart a deep brown colour, and the whole set aside for an hour, a yellow crystalline precipitate of iodoform should not result (absence of chloral alcoholate). Its aqueous solution should not afford any precipitate with *solution of silver nitrate* (absence of free chlorides).

Dose.—5 to 20 grains.

CHLOROFORMUM.

Chloroform.

Chloroform, or trichloromethane, $CHCl_3$, to which has been added sufficient Absolute Alcohol to produce a liquid having a specific gravity not less than 1·490, and not more than 1·495. Trichloromethane may be prepared by heating a mixture of chlorinated lime, slaked lime, ethylic alcohol, and distilled water.

Characters and Tests.—A liquid of characteristic odour and pungent sweet taste. Specific gravity 1·490 to 1·495. It should boil between 140° and 143·6° F. (60° and 62° C.). On allowing 20 cubic centimetres to evaporate from a large piece of filter paper placed on a warm plate, no foreign odour is perceptible at any stage of the evaporation. *Water* which has been shaken for five minutes with half its volume of Chloroform, and separated from the Chloroform, should be neutral to *litmus* (absence of acid), should not afford any colour with 1 cubic centimetre of *solution of cadmium iodide* and two drops of *mucilage of starch* (absence of free chlorine), and should not yield more than a very slight opalescence with four drops of *solution of silver nitrate* (absence of chlorides). After shaking *sulphuric acid* with ten times its volume of Chloroform for twenty minutes, and setting aside for fifteen minutes, both the acid and the Chloroform should be perfectly transparent and nearly colourless. 2 cubic centimetres taken from the layer of *sulphuric acid*, and diluted with 5 cubic centimetres of *water*, should remain transparent and very nearly colourless, and should have a pleasant odour. When this liquid is further diluted with 10 cubic centimetres of *water*, and stirred with a glass rod, it should still be transparent and colourless, and the addition of four drops of *solution of silver nitrate* should not cause more than a slightly diminished transparency. *Water* which has been shaken with half its volume of Chloroform, previously treated with *sulphuric acid* as described above, should not afford more than a slightly diminished transparency with *solution of silver nitrate*. (The foregoing four tests indicate absence from the Chloroform of products of its decomposition.) It evaporates without residue (absence of fixed matter).

Dose.—1 to 5 minims.

Chloroform should be kept cool and in a dark place.

CHRYSAROBINUM.

Chrysarobin.

A substance obtained from Araroba by extracting with hot chloroform, evaporating to dryness, and powdering. It consists chiefly of a definite chemical substance also known as chrysarobin, but contains a varying proportion of chrysophanic acid.

Characters and Tests.—A crystalline yellow, tasteless, inodorous powder, entirely soluble in hot *chloroform*, almost entirely soluble in hot *alcohol* (90 per cent.), partially soluble in *petroleum spirit*, but only slightly soluble in *water*. In *solution of potassium hydroxide* it partially dissolves, and assumes a deep brownish-red colour. Heated with free access of air it melts, giving off yellow fumes, and when incinerated does not leave more than 1 per cent. of ash.

CIMICIFUGÆ RHIZOMA.

Cimicifuga.

Synonym.—Actææ Racemosæ Radix.

The dried rhizome and roots of Cimicifuga racemosa. *Ell.* [*Bentl. and Trim. Med. Pl.* vol. i. plate 8].

Characters and Test.—The rhizome is from about two to six inches (five to fifteen centimetres) long, and from half an inch to an inch (twelve to twenty-five millimetres) in diameter, hard, nearly cylindrical in shape, and bears the remains of numerous stout ascending branches marked with encircling leaf-scars. The roots are brittle and usually broken off near the rhizome; they exhibit in transverse section from three to five wedge-shaped wood-bundles, separated by as many broad medullary rays. Both rhizome and roots are blackened by *test-solution of ferric chloride* (presence of tannic acid). Odour faint; taste bitter and acrid.

CINCHONÆ RUBRÆ CORTEX.

Red Cinchona Bark.

The dried bark of the stem and branches of cultivated plants of Cinchona succirubra, *Pavon* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 142].

Characters and Tests.—Imported in quilled or more or less incurved pieces, coated with the periderm, and varying in length from two inches to a foot (five to thirty centimetres) or more—the bark itself from about one-tenth to a quarter of an inch (two and a half to six millimetres) thick, or rarely more; outer surface brownish or reddish-brown in colour, more or less rough from longitudinal ridges which are most apparent in the branch bark, with numerous warts often running into lines in the larger pieces; in some varieties marked with numerous transverse cracks which have not thickened edges; inner surface brick-red or deep reddish-brown, irregularly and coarsely striated; fracture shortly fibrous in the smaller, and finely fibrous in the larger, pieces; powder brownish or reddish-brown; no marked odour; taste bitter and somewhat astringent.

When used for purposes other than that of obtaining the alkaloids or their salts, it should yield between 5 and 6 per cent. of total alkaloids, of which not less than half should consist of quinine and cinchonidine, as estimated by the following methods:—

Mix 20 grammes of Red Cinchona Bark, in No. 60 powder, with 6 grammes of *calcium hydroxide*; slightly moisten the powders with 20 cubic centimetres of *water*; mix the whole intimately in a small porcelain dish or mortar; allow the mixture to stand for an hour or two, when it will present the characters of a moist dark brown powder, in which there should be no lumps or visible white particles. Transfer this powder to a suitable flask fitted with a small reflux condenser, add 130 cubic centimetres of *benzolated amylic alcohol*, boil them together for about half an hour, decant the liquid on to a filter, leaving the powder in the flask; add more of the *benzolated amylic alcohol* to the powder, and boil and decant as before; repeat this operation a third time; then turn the contents of the flask on to the filter, and wash by percolation with more of the *benzolated amylic alcohol* until the Bark is exhausted. Introduce the collected filtrate, while still warm, into a stoppered glass separator; add to it 2 cubic centimetres of *diluted hydrochloric acid*, mixed with 12 cubic centimetres of *water*; shake them well together, and when the acid liquid has separated this may be drawn off, and the process repeated with *water* slightly acidulated with *hydrochloric acid*, until the whole of the alkaloids have been removed. The liquid should then, while warm, be carefully and exactly neutralised with *solution of ammonia*, and concentrated to the bulk of 16 cubic centimetres. If now about 1·5 grammes of *sodium potassium tartrate*, dissolved in twice its weight of *water*, be added to the solution, and the mixture stirred with a glass rod, insoluble tartrates of quinine and cinchonidine will separate completely in about an hour, and these collected on a filter, washed, and dried in a water-oven, will contain eight-tenths of their weight of the alkaloids, quinine and cinchonidine, which, multiplied by 5, gives the weight of those alkaloids present in 100 grammes of the Bark. To the mother-liquor from the preceding process add *solution of ammonia* in slight excess. Collect, wash, and dry the precipitate, which will contain the other alkaloids. The weight of this precipitate, multiplied by 5, and added to the percentage weight of the quinine and cinchonidine, gives the percentage weight of total alkaloids.

CINNAMOMI CORTEX.

Cinnamon Bark.

The dried inner bark of shoots from the truncated stocks of Cinnamomum zeylanicum, *Breyn* [*Bentl. and Trim. Med. Pl.* vol. iii. plate 224]. Obtained from cultivated trees. Imported from Ceylon, and distinguished in commerce as Ceylon cinnamon.

Characters.—In closely rolled quills, each about three-eighths of an inch (nine millimetres) in diameter, and containing numerous smaller quills or channelled pieces. It is thin, brittle, splintery, dull light yellowish-brown externally, and marked by little scars or holes and faint shining wavy lines; darker brown on its inner surface. Odour fragrant; taste warm, sweet, and aromatic.

COCÆ FOLIA.

Coca Leaves.

The dried leaves of Erythroxylum Coca, *Lam.*, and its varieties [*Bot. Mag.* plate 7334; *Pharm. Journ.* ser. 3, vol. xxii. p. 818, plates].

Characters.—The leaves imported from Bolivia vary usually from one and a half to three inches (three and a half to seven centimetres) in length and from one to one and a half inches (twenty-five to thirty-five millimetres) in breadth. They are brownish-green in colour, oval, entire and glabrous, the upper surface bearing a distinct ridge above the midrib. On the under surface near to the midrib and on either side of it a curved line is almost always distinctly visible. The midrib itself is prolonged into a minute horny apiculus, which, however, is frequently broken off. Most of the epidermal cells of the under surface are seen in transverse section to project in the form of small papillæ. The leaves possess a faint but characteristic odour and a slightly bitter taste which is succeeded by a sensation of numbness. They should be free from mildew.

The leaves imported from Peru are somewhat smaller, narrower, and more fragile than those imported from Bolivia; they are pale green in colour, and do not exhibit a prominent ridge above the midrib on the upper surface, nor such distinct curved lines on either side of it on the under surface.

COCAINA.

Cocaine.

An alkaloid, $C_{17}H_{21}NO_4$, obtained from the leaves of Erythroxylum Coca, *Lam.*, and its varieties.

Characters and Tests.—Colourless monoclinic prisms which have a bitter taste followed by a sensation of tingling and numbness. It melts at 204·8° to 208·4° F. (96° to 98° C.). Almost insoluble in *water*, insoluble in *glycerin*, soluble in 10 parts of *alcohol* (90 per cent.), in 4 parts of *ether*, in ½ part of *chloroform*, in 12 parts of *olive oil*, and in 14 parts of *oil of turpentine*. Its solution in *water* acidulated with *hydrochloric acid*, and the dry salt obtained on evaporating this solution, afford the reactions mentioned under 'Cocainæ Hydrochloridum.' Its solution in *water* acidulated with *nitric acid* yields no reaction with the tests for chlorides or sulphates.

COCAINÆ HYDROCHLORIDUM.

Cocaine Hydrochloride.

c). ~~Hydrochlorate of Cocaine, Brit. Pharm. 1885.~~

The hydrochloride, $C_{17}H_{21}NO_4,HCl$, of an alkaloid obtained from the leaves of Erythroxylum Coca, *Lam.*, and its varieties.

Characters and Tests.—In colourless acicular crystals or crystalline powder. It melts at 356° to 366·8° F. (180° to 186° C.). Soluble in half its weight of cold *water*, forming a clear and colourless solution, neutral to *litmus*, and in four times its weight of *alcohol* (90 per cent.) or of *glycerin*. It is insoluble in *olive oil* and almost insoluble in *ether*. Its aqueous solution has a bitter taste, produces on the tongue a tingling sensation followed by numbness, and when applied to the eye dilates the pupil. It affords a yellow precipitate with *solution of auric chloride*; a white precipitate with *solution of ammonium carbonate*, and also with solution of *borax*. It dissolves without colour in cold *sulphuric* or *nitric acid*, but chars with hot *sulphuric acid*, evolving an agreeable odour, and yielding a crystalline sublimate of benzoic acid. Its aqueous solution yields with *solution of potassium hydroxide* a white precipitate soluble in *alcohol* or *ether*, with *solution of picric acid* a yellow precipitate becoming crystalline on standing, with *test-solution of mercuric chloride* slightly acidulated with *hydrochloric acid*, a white precipitate soluble in hot *water*. Moistened with *nitric acid*, the mixture evaporated to dryness, and a drop of *alcoholic solution of potassium hydroxide* added, a characteristic odour is evolved more or less recalling that of peppermint. A solution containing not less than 1 per cent. gives with excess of *solution of potassium permanganate* a copious red precipitate which does not change colour within an hour (absence of cinnamyl cocaine and cocamine or other products derived from cocaine). 0·1 gramme dissolved in 100 cubic centimetres of *water* and 0·25 cubic centimetre of *solution of ammonia* added, affords a clear solution, from which a crystalline deposit should gradually separate on stirring (limit of amorphous alkaloid). It affords the reactions characteristic of hydrochlorides. It should not afford more than the slightest reactions with the tests for sulphates. Dried for twenty minutes at 204° to 212° F. (95·6° to 100° C.) it should not lose more than 1 per cent. of moisture. Heated to redness with free access of air it burns without residue.

Dose.—$\frac{1}{5}$ to $\frac{1}{2}$ grain.

COCCUS.

Cochineal.

The dried fecundated female insect, Coccus Cacti, *Linn.* [*Brandt and Ratzeburg, Med. Zool.* vol. ii. tab. xxvi.], reared on Nopalea coccinellifera, *Salm-Dyck* [*Mart. Fl. Bras.* vol. iv. pt. ii. tab. lx.], and on other species of Nopalea.

Characters and Test.—About one-fifth of an inch (five millimetres) long; somewhat oval in outline, flat or concave beneath, convex above, transversely wrinkled, purplish-black or purplish-grey, easily reduced to powder which is dark-red or puce-coloured. When Cochineal is macerated in *water* no insoluble powder is separated. Incinerated with free access of air, it should yield not more than 6 per cent. of ash.

CODEINA.

Codeine.

An alkaloid, $C_{17}H_{18}(CH_3)NO_3,H_2O$, obtained from opium or from morphine.

Characters and Tests.—In colourless or nearly colourless trimetric crystals, soluble in 80 parts of *water* or of *solution of ammonia*, readily soluble in *alcohol* (90 per cent.), in *chloroform*, and in diluted acids. It is soluble in 30 parts of *ether*. The aqueous solution has a bitter taste and an alkaline reaction. The alkaloid dissolves in an excess of *sulphuric acid*, forming a colourless solution, a small quantity of which, when gently warmed on a water-bath with 2 drops of *solution of ammonium molybdate*, or with a trace of *ferric chloride* or *potassium ferricyanide*, develops a blue or bluish-black colour, which, on the addition of a minute trace of *diluted nitric acid*, changes to a bright scarlet, becoming orange. Heated to redness in air it yields no ash. Moistened with *nitric acid* the liquid becomes yellow but not red. A 2 per cent. solution of Codeine in *water* acidulated with a few drops of *hydrochloric acid*, gives a whitish precipitate with *solution of potassium hydroxide*, but not with *solution of ammonia*. A saturated solution of Codeine in *water* acidulated with *hydrochloric acid*, should give no blue colour, but only gradually a dull green, on the addition of *test-solution of ferric chloride* and a very dilute solution of *potassium ferricyanide* (absence of morphine and other impurities).

Dose.—$\frac{1}{4}$ to 2 grains.

CODEINÆ PHOSPHAS.

Codeine Phosphate.

The phosphate, $(C_{17}H_{18}(CH_3)NO_3,H_3PO_4)_2,3H_2O$, of an alkaloid obtained from opium or from morphine.

Characters and Tests.—White crystals which have a slightly bitter taste. It is soluble in 4 parts of *water*, much less soluble in *alcohol* (90 per cent.). A 5 per cent. aqueous solution has a slightly acid reaction, and yields a whitish precipitate with *solution of potassium hydroxide*, but not with *solution of ammonia*. It affords the reactions characteristic of Codeine and of phosphates. It loses its water of crystallisation when dried at 212° F. (100° C.), and at a higher temperature melts, forming a yellowish-brown liquid. It should yield no characteristic reaction with the tests for chlorides or sulphates. It should not be coloured blue by *test-solution of ferric chloride* (absence of morphine).

Dose.—$\frac{1}{4}$ to 2 grains.

COLCHICI CORMUS.

Colchicum Corm.

The fresh corm of Colchicum autumnale, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. iv. plate 288], collected in early summer; and the same stripped of its coats, sliced transversely, and dried at a temperature not exceeding 150° F. (65·5° C.).

Characters.—The fresh corm is about one inch and a half (thirty-five millimetres) long and an inch (twenty-five millimetres) broad, somewhat conical, hollowed on one side where it has a new corm in process of development, and rounded on the other; covered with an outer thin brown membranous coat, and an inner reddish-yellow one; internally white and solid, and when cut yielding a milky juice of a bitter taste and disagreeable odour. Dried slices are one-tenth or one-eighth of an inch (two or three millimetres) thick, yellowish at their circumference, somewhat reniform in outline; firm, whitish, amylaceous; breaking readily with a short fracture; taste bitter; no odour.

Dose of the dried corm.—2 to 5 grains.

COLCHICI SEMINA.

Colchicum Seeds.

The dried ripe seeds of Colchicum autumnale, *Linn.*

Characters.—About one-tenth of an inch (two and a half millimetres) in diameter, subglobular, slightly pointed at the hilum, rough and of a dull reddish-brown colour, minutely pitted, very hard and tough. The endosperm is oily; its cells are seen in transverse section to have thickened walls with large pits. The Seeds have a bitter acrid taste, but no odour.

COLLODIUM.

Collodion.

	IMPERIAL	METRIC
Pyroxylin	1 ounce	10 grammes
Ether	36 fl. ounces .	360 cubic centimetres
Alcohol (90 per cent.) .	12 fl. ounces .	120 cubic centimetres

Mix the Ether and the Alcohol; add the Pyroxylin; set aside for a few days; should there be any sediment, decant the clear Collodion.

Characters.—A colourless highly inflammable liquid of syrupy consistence and ethereal odour. It dries quickly upon exposure to the air, and leaves a thin transparent film, which contracts rapidly on drying and is insoluble in *water* or *alcohol* (90 per cent.).

COLLODIUM FLEXILE.

Flexible Collodion.

	IMPERIAL	METRIC
Collodion . .	12 fl. ounces .	480 cubic centimetres
Canada Turpentine	½ ounce . .	20 grammes
Castor Oil . .	¼ ounce . .	10 grammes

Mix.

COLLODIUM VESICANS.

Blistering Collodion.

	IMPERIAL	METRIC
Blistering Liquid	20 fl. ounces	200 cubic centimetres
Pyroxylin	½ ounce	5 grammes

Add the Pyroxylin to the Blistering Liquid in a stoppered bottle; shake them together until the Pyroxylin is dissolved.

COLOCYNTHIDIS PULPA.

Colocynth Pulp.

The dried pulp of the fruit of Citrullus Colocynthis, *Schrad.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 114], freed from seeds.

Characters and Tests.—The fruit is usually imported peeled, in more or less broken balls about two inches (five centimetres) or less in diameter. The Pulp, which alone is official, is light, spongy, whitish, and odourless, but intensely bitter. It should not yield the characteristic reactions with the tests for starch, and only traces of fixed oil should be removed from it by *ether*. It yields, when dried at 212° F. (100° C.) and incinerated, at least 9 per cent. of ash (indicating absence of seeds).

CONFECTIO PIPERIS.

Confection of Pepper.

	IMPERIAL	METRIC
Black Pepper, in fine powder	2 ounces	40 grammes
Caraway Fruit, in fine powder	3 ounces	60 grammes
Clarified Honey	15 ounces	300 grammes

Mix.

Dose.—60 to 120 grains.

CONFECTIO ROSÆ GALLICÆ.

Confection of Roses.

	IMPERIAL	METRIC
Fresh Red-Rose Petals	1 pound .	. 500 grammes
Refined Sugar . .	3 pounds .	. 1500 grammes

Beat together in a stone mortar.

CONFECTIO SENNÆ.

Confection of Senna.

	IMPERIAL	METRIC
Senna, in fine powder .	7 ounces .	. 140 grammes
Coriander Fruit, in fine powder . . .	3 ounces .	. 60 grammes
Figs	12 ounces .	. 240 grammes
Tamarinds . . .	9 ounces .	. 180 grammes
Cassia Pulp . . .	9 ounces .	. 180 grammes
Prunes . . .	6 ounces .	. 120 grammes
Extract of Liquorice .	1 ounce .	. 20 grammes
Refined Sugar . .	30 ounces .	. 600 grammes
Distilled Water . .	a sufficient quantity	

Boil the Figs and Prunes gently with twenty-four ounces (or four hundred and eighty grammes) of Distilled Water in a covered vessel for four hours; add more Distilled Water to make up the quantity to its original volume, and then incorporate the Tamarinds and Cassia Pulp; digest for two hours; rub the softened pulp of the fruits through a hair sieve, rejecting the seeds and other hard parts; to the pulp thus obtained add the Refined Sugar and Extract of Liquorice, dissolving them by the aid of gentle heat; while the mixture is still warm, add to it gradually the mixed Senna and Coriander powders; mix the whole thoroughly; make the weight of the resulting Confection seventy-five ounces (or fifteen hundred grammes), either by evaporation or by the addition of more Distilled Water.

Dose.—60 to 120 grains.

CONFECTIO SULPHURIS.

Confection of Sulphur.

	IMPERIAL	METRIC
Sublimed Sulphur	4 ounces	100 grammes
Acid Potassium Tartrate, in powder	1 ounce	25 grammes
Tragacanth, in powder	18 grains	1 gramme
Syrup	2 fl. ounces	50 cubic centimetres
Tincture of Orange	½ fl. ounce	12·5 cubic centimetres
Glycerin	1½ fl. ounces	37·5 cubic centimetres

Mix.

Dose.—60 to 120 grains.

CONII FOLIA.

Conium Leaves.

The fresh leaves and young branches of Conium maculatum, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 118], collected when the fruit begins to form.

Characters and Test.—The leaves are more or less divided in a pinnate manner, the lower decompound and sometimes two feet (nearly seventy centimetres) in length, glabrous, and arising from a smooth stem marked with dark purple spots; the clasping petioles are of varying length, those of the lower leaves being hollow. The ultimate divisions of the leaves terminate in smooth, colourless, horny points. The odour is strong and disagreeable, resembling that of mice, more especially when rubbed with *solution of potassium hydroxide.*

CONII FRUCTUS.

Conium Fruit.

The dried, full-grown, unripe fruits of Conium maculatum, *Linn.*

Characters and Test.—Broadly ovoid in shape, greenish-grey in colour; about one-eighth of an inch (three millimetres) long, and nearly as broad, somewhat laterally compressed, and crowned by the depressed stylopod. In the drug as met with in commerce the mericarps are usually separated; each is glabrous and possesses five irregular, more or less crenate, primary ridges; the endosperm is deeply grooved on the commissural surface, and in the transverse section of the mericarp no vittæ are visible. No marked odour or taste, but when rubbed with *solution of potassium hydroxide* a strong disagreeable odour is produced resembling that of mice.

COPAIBA.

Copaiba.

Synonym.—Copaiva.

The oleo-resin obtained from the trunk of Copaifera Lansdorfii, *Desf.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 93], and other species of Copaifera, *Linn.*

Characters and Tests.—A more or less viscid liquid; generally transparent and not fluorescent, but some varieties are opalescent and occasionally slightly fluorescent; light yellow to pale golden brown, having a peculiar aromatic odour, and a persistent acrid somewhat bitter taste. Its specific gravity varies from 0·916 to 0·993. A small quantity heated until all volatile oil is removed yields a residue which when cold is hard and easily rubbed to powder (absence of fixed oil); and the oil volatilised during the operation does not smell of turpentine. Entirely soluble in *absolute alcohol*, and in four times its bulk of *petroleum spirit*, the latter solution yielding only a filmy deposit on standing. The volatile oil should be present to the extent of at least 40 per cent., should rotate the plane of a ray of polarised light from 28° to 34° to the left (absence of African copaiba), and should not boil under 482° F. (250° C.). When 2 drops are dissolved in 20 parts of *carbon bisulphide*, and a drop of a cooled mixture of equal parts of *nitric* and *sulphuric acids* added, a transient violet colour is not produced (absence of gurjun balsam).

4 drops of Copaiba, carefully added to a mixture of half an ounce of *glacial acetic acid* with 4 drops of *nitric acid*, should not afford a reddish or purple colour (absence of gurjun balsam).

Dose.—½ to 1 fluid drachm.

CORIANDRI FRUCTUS.

Coriander Fruit.

The dried ripe fruit of Coriandrum sativum, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 133].

Characters.—Nearly globular, about one-fifth of an inch (five millimetres) in diameter, uniform brownish-yellow in colour, and glabrous. The two mericarps usually remain closely united, and are crowned by the calyx teeth and stylopod. Primary ridges wavy and inconspicuous; secondary ridges straight and more prominent. The transverse section exhibits two vittæ on the commissural surface of each mericarp. Odour aromatic, especially when bruised; taste agreeable.

CREOSOTUM.

Creosote.

A mixture of guaiacol, creosol, and other phenols; obtained in the distillation of wood tar.

Characters and Tests.—A colourless or yellowish highly refractive liquid having a strong empyreumatic odour and acrid taste; neutral or only faintly acid to *litmus*. It is dissolved by about 150 parts of *water* at ordinary temperatures, and is more soluble in hot *water*. It is freely soluble in *alcohol* (90 per cent.), *ether*, *chloroform*, *glycerin*, and *glacial acetic acid*. Specific gravity, not below 1·079. It distils between 392° F. (200° C.) and 428° F. (220° C.). A 1 per cent. solution in *alcohol* (90 per cent.), or a half per cent. solution in *water*, with a drop of the *test-solution of ferric chloride*, yields a green coloration, rapidly changing to a reddish-brown. It rotates the plane of a ray of polarised light to the left. Dropped on white filtering paper and exposed to a temperature of 212° F. (100° C.), it leaves no translucent stain (absence of less volatile liquids). It is miscible with an equal volume of *collodion* without gelatinisation; and, when shaken with 5 times its bulk of *solution of ammonia,* its volume should not be diminished materially (distinction from phenol).

Dose.—1 to 5 minims.

CRETA PRÆPARATA.

Prepared Chalk.

Native calcium carbonate, freed from most of its impurities by elutriation.

Characters and Tests.—White friable masses or a white powder yielding the reactions of calcium and of carbonates. It should yield only the slightest characteristic reactions with the tests for iron, aluminium, magnesium, phosphates, sulphates, or silica. Dissolved in *diluted acetic acid,* the solution should yield no precipitate with *solution of potassium chromate* (absence of barium carbonate).

Dose.—10 to 60 grains.

CROCUS.

Saffron.

The dried stigmas and tops of the styles of Crocus sativus, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. iv. plate 274].

Characters and Tests.—Each entire portion of commercial saffron is an inch (twenty-five millimetres) or somewhat more in length, and consists of three orange-red stigmas, thickened and tubular above, jagged or notched at the upper extremities, and united below to the top of the yellow style. Saffron is flexible and unctuous to the touch, unless quite dry; it has a peculiar strong aromatic odour, and a bitter somewhat aromatic taste. Rubbed on the wet finger it leaves an intense orange-yellow tint. When pressed between folds of white filtering paper, it leaves no oily stain. When a small portion is placed in a glass of warm *water* it colours the liquid orange-yellow, becomes itself paler in colour, and does not deposit any white or coloured powder. Incinerated with free access of air, dried Saffron does not deflagrate (absence of nitrates), and yields about 7 per cent. of ash. It should not lose more than 12·5 per cent. of moisture when dried at 212° F. (100° C.).

CUBEBÆ FRUCTUS.

Cubebs.

The dried full-grown unripe fruits of Piper Cubeba, *Linn. fil.* [*Kew Bulletin*, December 1887, p. 3].

Characters and Test.—Nearly globular, sometimes depressed at the base, about one-sixth of an inch (four millimetres) in diameter, greyish-brown or nearly black in colour. The pericarp is reticulately wrinkled, thin, brittle, and abruptly prolonged at the base into a slender rounded stalk which is about one and a half times the length of the globular portion, within which is a single seed attached by the base. A transverse section of the pericarp exhibits two layers of sclerenchymatous cells, one near the outer, the other near the inner surface, those of the latter being radially elongated. Odour strong, aromatic, and characteristic; taste warm, aromatic, and somewhat bitter. The crushed Fruit imparts a crimson colour to *sulphuric acid.*

Dose.—30 to 60 grains.

CUPRI SULPHAS.

Copper Sulphate.

Synonym.—Cupric Sulphate.

This salt, $CuSO_4,5H_2O$, may be obtained by the interaction of water, sulphuric acid, and copper or cupric oxide.

Characters and Tests.—Blue triclinic prisms, soluble in 3·5 parts of cold *water*, forming a solution which strongly reddens *litmus*; very soluble also in *glycerin*, almost insoluble in *alcohol* (90 per cent.). It affords the reactions of copper and of sulphates. It should yield no characteristic reaction with the tests for lead, arsenium, zinc, or aluminium, and not more than the slightest reactions with the tests for iron.

Dose.—As an astringent, ¼ to 2 grains; as an emetic, 5 to 10 grains.

CUSPARIÆ CORTEX.

Cusparia Bark.

50 yrd [illegible]

The dried bark of Cusparia febrifuga, *DC.* [*Bentl. and Trim. Med. Pl.* vol. i. plate 43].

Characters.—Occurs in flattened or curved pieces, or in quills, generally about four or five inches (ten or twelve centimetres) long, an inch (twenty-five millimetres) wide, and one-twelfth of an inch (two millimetres) thick. The outer layer usually consists of a grey or yellowish cork which is often soft and easily removed, disclosing a hard, dark-brown inner layer; the inner surface is light-brown and frequently laminated. The fracture is short and resinous; on the fractured surface many white points are visible. A transverse section exhibits numerous cells filled with acicular crystals of calcium oxalate and small oil glands, but seldom any sclerenchymatous tissue other than small isolated groups of bast fibres. Odour musty; taste bitter.

CUSSO.

Kousso.

The dried panicles of pistillate flowers of Brayera anthelmintica, *Kunth* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 102].

Characters.—Usually in more or less cylindrical rolls from one to two feet (three to six decimetres) in length, composed of reddish panicles of pistillate flowers. The panicles are much branched, the branches arising from the axils of large sheathing bracts; they are more or less covered with hairs and glands. Flowers numerous, small, shortly stalked, mostly unisexual, with two roundish membranous veined bracts at the base of each. The calyx has reddish veins, is hairy externally, and consists of two alternating whorls each of five segments, the inner whorl being curved inwards over the young fruit and shrivelled. No marked odour, taste bitter and acrid.

Dose.—$\frac{1}{4}$ to $\frac{1}{2}$ ounce.

DECOCTUM ALOES COMPOSITUM.

Compound Decoction of Aloes.

	IMPERIAL	METRIC
Extract of Barbados Aloes	$\frac{1}{2}$ ounce	10 grammes
Myrrh Saffron Potassium Carbonate of each	$\frac{1}{4}$ ounce	5 grammes
Extract of Liquorice	2 ounces	40 grammes
Compound Tincture of Cardamoms	15 fl. ounces	300 cubic centimetres
Distilled Water	a sufficient quantity	

Reduce the Extract of Barbados Aloes and the Myrrh to coarse powder, and boil them and the Potassium Carbonate and the Extract of Liquorice with one pint (or four hundred cubic centimetres) of Distilled Water in a covered vessel for five minutes; add the Saffron; when the liquid is cool add the Tincture of Cardamoms; set aside in the covered vessel for two hours; strain through flannel; pass sufficient Distilled Water through the strainer to make fifty fluid ounces (or one thousand cubic centimetres) of the Compound Decoction of Aloes.

Dose.—$\frac{1}{2}$ to 2 fluid ounces.

DECOCTUM GRANATI CORTICIS.

Decoction of Pomegranate Bark.

	IMPERIAL	METRIC
Pomegranate Bark, in No. 10 powder . . .	4 ounces .	200 grammes
Distilled Water . .	a sufficient quantity	

Boil the Pomegranate Bark with twenty-four fluid ounces (or twelve hundred cubic centimetres) of Distilled Water in a suitable vessel for ten minutes; strain; pour enough Distilled Water over the contents of the strainer to make one pint (or one thousand cubic centimetres) of the strained Decoction.

Dose.—½ to 2 fluid ounces.

DECOCTUM HÆMATOXYLI.

Decoction of Logwood.

	IMPERIAL	METRIC
Logwood, in chips .	1 ounce . .	50 grammes
Cinnamon Bark, bruised	70 grains .	8 grammes
Distilled Water . .	a sufficient quantity	

Boil the Logwood with twenty-four fluid ounces (or twelve hundred cubic centimetres) of Distilled Water in a suitable vessel for ten minutes, adding the Cinnamon Bark towards the end of the time; strain; pour enough Distilled Water over the contents of the strainer to make one pint (or one thousand cubic centimetres) of the strained Decoction.

Dose.—½ to 2 fluid ounces.

DIGITALIS FOLIA.

Digitalis Leaves.

The dried leaves of Digitalis purpurea, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. iii. p. 195]. Collected from plants commencing to flower.

Characters.—From four to twelve inches (ten to thirty centimetres) or more in length, and sometimes as much as five or six inches (twelve and a half to fifteen centimetres) broad, with a winged petiole of varying length down which the lower veins are decurrent; broadly ovate or ovate-lanceolate, subacute, crenate or irregularly crenate-dentate. Upper surface somewhat rugose, dull green and slightly hairy, with glandular, simple, usually three-celled hairs; under surface paler and densely pubescent. The transverse section exhibits a mesophyll free from crystals of calcium oxalate. No marked odour, taste very bitter.

Dose, in powder.—$\frac{1}{2}$ to 2 grains.

ELATERINUM.

Elaterin.

Elaterin, $C_{20}H_{28}O_5$, is the active principle of Elaterium.

Characters and Tests.—In small hexagonal scales, having a bitter taste, almost entirely insoluble in *water*, sparingly soluble in *alcohol* (90 per cent.), readily soluble in *chloroform*. Neutral to *litmus*. Heated with access of air it first melts and then burns, leaving no residue. With melted *phenol* it yields a solution which, on the addition of *sulphuric acid*, acquires a crimson colour rapidly changing to scarlet. It is not precipitated from alcoholic solutions by *solution of tannic acid*, *test-solution of mercuric chloride*, or *solution of platinic chloride* (absence of alkaloids).

Dose.—$\frac{1}{40}$ to $\frac{1}{10}$ grain.

ELATERIUM.

Elaterium.

A sediment from the juice of the fruit of Ecballium Elaterium, *A. Richard.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 115].

Characters and Tests.—In light friable flat or slightly curved opaque cakes, about one-tenth of an inch (two and a half millimetres) thick; pale green, greyish-green, or yellowish-grey in colour; fracture finely granular; odour faint, tea-like, taste bitter and acrid. It should not give the characteristic reactions with the tests for carbonates or for starch, and should yield half its weight to boiling *alcohol* (90 per cent.). When exhausted with *chloroform*, the solution evaporated, the residue washed with *ether*, and the process of solution, evaporation, and washing repeated, Elaterium should yield 25 per cent., or not less than 20 per cent., of Elaterin.

Dose.—$\frac{1}{10}$ to $\frac{1}{2}$ grain.

EMPLASTRUM AMMONIACI CUM HYDRARGYRO.

Ammoniacum and Mercury Plaster.

	IMPERIAL	METRIC
Ammoniacum	12 ounces	328 grammes
Mercury	3 ounces	82 grammes
Olive Oil	56 grains	3·5 grammes
Sublimed Sulphur	8 grains	0·5 gramme

Heat the Olive Oil; add the Sulphur to it gradually, stirring until they are uniformly blended; with this mixture triturate the Mercury until metallic globules are no longer visible; add the Ammoniacum, previously purified by boiling with successive portions of water, passing the resulting emulsions through, while rubbing the residues on, a hair sieve, and, after mixing, evaporating the emulsions to a suitable consistence.

EMPLASTRUM BELLADONNÆ.

Belladonna Plaster.

	IMPERIAL	METRIC
Liquid Extract of Belladonna	4 fl. ounces	100 cubic centimetres
Resin Plaster	5 ounces	125 grammes

Evaporate the Liquid Extract of Belladonna on a water-bath until it is reduced in weight to one ounce (or twenty-five grammes); add the Resin Plaster previously melted; mix.

This Plaster contains 0·5 per cent. of the alkaloids of Belladonna Root.

EMPLASTRUM CALEFACIENS.

Warming Plaster.

	IMPERIAL	METRIC
Cantharides, in coarse powder	4 ounces	100 grammes
Yellow Beeswax	4 ounces	100 grammes
Resin	4 ounces	100 grammes
Resin Plaster	3¼ pounds	1300 grammes
Soap Plaster	2 pounds	800 grammes
Distilled Water, boiling	1 pint	500 cubic centimetres

1 in 24

Infuse the Cantharides in the Distilled Water for six hours; squeeze strongly through calico; evaporate the expressed liquid on a water-bath till reduced to one-third; add the other ingredients; melt on a water-bath; stir until the ingredients are thoroughly mixed.

EMPLASTRUM CANTHARIDIS.

Cantharides Plaster.

	IMPERIAL	METRIC
Cantharides, in powder	3½ ounces	35 grammes
Yellow Beeswax	2 ounces	20 grammes
Lard	2 ounces	20 grammes
Resin	2 ounces	20 grammes
Soap Plaster	½ ounce	5 grammes

~~1 in 4~~
1 in 3

Melt the Resin; add the Soap Plaster, and, afterwards, the Yellow Beeswax and Lard. Sprinkle the Cantharides into the melted mixture; stir continuously while the product is cooling.

EMPLASTRUM HYDRARGYRI.

Mercurial Plaster.

	IMPERIAL	METRIC
Mercury	3 ounces	82 grammes
Olive Oil	56 grains	3·5 grammes
Sublimed Sulphur	8 grains	0·5 gramme
Lead Plaster	6 ounces	164 grammes

Heat the Olive Oil; add the Sulphur to it gradually; stir until they are uniformly blended; with this mixture triturate the Mercury until metallic globules are no longer visible; add the Lead Plaster previously melted; mix.

EMPLASTRUM MENTHOL.

Menthol Plaster.

	IMPERIAL	METRIC
Menthol	1½ ounces	30 grammes
Yellow Beeswax	1 ounce	20 grammes
Resin	7½ ounces	150 grammes

Melt the Beeswax and Resin together; when the mixture approaches the temperature of 160° or 170° F. (71·1° or 76·7° C.), stir in the Menthol until dissolved.

EMPLASTRUM OPII.

Opium Plaster.

	IMPERIAL	METRIC
Opium, in very fine powder	1 ounce	10 grammes
Resin Plaster	9 ounces	90 grammes

Melt the Resin Plaster on a water-bath; stir in the Opium gradually.

EMPLASTRUM PICIS.

Pitch Plaster.

	IMPERIAL	METRIC
Burgundy Pitch	26 ounces	520 grammes
Frankincense	13 ounces	260 grammes
Resin	4½ ounces	90 grammes
Yellow Beeswax	4½ ounces	90 grammes
Olive Oil	2 ounces	40 grammes
Distilled Water	2 fl. ounces	40 cubic centimetres

Add the Olive Oil and the Water to the Frankincense, Burgundy Pitch, Resin, and Beeswax, previously melted together; evaporate with constant stirring to a proper consistence.

EMPLASTRUM PLUMBI.

Lead Plaster.

	IMPERIAL	METRIC
Lead Oxide	1 pound	400 grammes
Olive Oil	2 pounds	800 grammes
Distilled Water	16 fl. ounces	400 cubic centimetres or a sufficient quantity

Boil all the ingredients together gently by the aid of a steam-bath; keep them simmering for four or five hours, stirring constantly until the product acquires a proper consistence for a plaster; add more of the Distilled Water during the process if necessary.

EMPLASTRUM PLUMBI IODIDI.

Lead Iodide Plaster.

	IMPERIAL	METRIC
Lead Iodide	2 ounces	50 grammes
Lead Plaster	1 pound	400 grammes
Resin	2 ounces	50 grammes

Finely powder the Iodide of Lead; mix it with the Lead Plaster and Resin previously melted together at as low a temperature as possible.

EMPLASTRUM RESINÆ.

Resin Plaster.

Synonym.—Adhesive Plaster.

	IMPERIAL	METRIC
Resin	4 ounces	100 grammes
Lead Plaster	2 pounds	800 grammes
Hard Soap	2 ounces	50 grammes

Melt each ingredient separately at as low a temperature as possible; mix.

EMPLASTRUM SAPONIS.

Soap Plaster.

	IMPERIAL	METRIC
Hard Soap . .	6 ounces .	150 grammes
Lead Plaster . .	2¼ pounds .	900 grammes
Resin . . .	1 ounce .	25 grammes

Melt each ingredient separately at a low temperature; mix; evaporate, with constant stirring, to a proper consistence.

ERGOTA.

Ergot.

The sclerotium of Claviceps purpurea, *Tulasne*, originating in the ovary of Secale cereale, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. iv. plate 303].

Characters and Test.—Subcylindrical or somewhat triangular, tapering towards the ends, generally curved; from one-third of an inch to an inch and a half (one to four centimetres) in length; longitudinally furrowed on each side, but more especially on that which is concave; often irregularly cracked; very dark violet-black externally, whitish or pinkish-white within; fracture short. Odour peculiar and disagreeable, especially if the powder be triturated with *solution of potassium hydroxide*; taste disagreeable. Ergot should be free from mustiness; it is liable to deteriorate by keeping and by exposure to damp.

Dose.—20 to 60 grains.

EUCALYPTI GUMMI.

Eucalyptus Gum.

A ruby-coloured exudation, or so-called red gum, from the bark of Eucalyptus rostrata, *Schlecht.* [*Mueller, Eucalyptographia*], and some other species of Eucalyptus. Imported from Australia.

Characters and Tests.—In grains or small masses. Thin fragments are transparent and of a ruby-red or garnet-red colour. It is somewhat tough and has a very astringent taste. When chewed it adheres to the teeth and tinges the saliva red. Cold *water* dissolves from 80 to 90 per cent., forming a neutral solution. It is almost entirely soluble in *alcohol* (90 per cent.).

Dose.—2 to 5 grains.

EUONYMI CORTEX.

Euonymus Bark.

The dried root-bark of Euonymus atropurpureus, *Jacquin* [*Sargent*, *Silva*, vol. ii. tab. liii.].

Characters.—In quilled or curved pieces, varying in thickness from one-twelfth to one-sixth of an inch (two to four millimetres). The outer layer is a soft friable cork of a light ash-grey colour, marked with darker patches. The inner surface is pale tawny white and smooth, when free from fragments of the white wood. The Bark breaks with a short fracture; the fractured surface is yellowish in colour. Odour faint but characteristic; taste somewhat mucilaginous and afterwards bitter and slightly acrid.

EXTRACTUM ALOES BARBADENSIS.

Extract of Barbados Aloes.

	IMPERIAL	METRIC
Barbados Aloes, in small fragments	1 pound	1000 grammes
Distilled Water, boiling	1 gallon	10 litres

Add the Barbados Aloes to the Distilled Water and stir well until they are thoroughly mixed; set the mixture aside for twenty-four hours; decant; strain; evaporate the strained liquid to dryness at a temperature not exceeding 140° F. (60° C.).

Dose.—1 to 4 grains.

EXTRACTUM ANTHEMIDIS.

Extract of Chamomile.

	IMPERIAL	METRIC
Chamomile Flowers	1 pound	1000 grammes
Oil of Chamomile	15 minims	2 cubic centimetres
Distilled Water	1 gallon	10 litres

Boil the Chamomile Flowers with the Distilled Water until the volume is reduced to one half; strain; press; filter; evaporate the filtrate to the consistence of a soft extract; add the Oil of Chamomile towards the end of the process.

Dose.—2 to 8 grains.

EXTRACTUM BELLADONNÆ ALCOHOLICUM.

Alcoholic Extract of Belladonna.

An Extract containing one per cent. of the alkaloids of Belladonna Root.

Evaporate one fluid ounce (or fifty cubic centimetres) of Liquid Extract of Belladonna, in a counterpoised basin, on a water-bath, to the consistence of a moderately firm extract; weigh. The difference between the weight of the residue and three-quarters of an ounce (or thirty-seven and a half grammes) gives the weight of Milk Sugar to be used as a diluent for each fluid ounce (or fifty cubic centimetres) of the Liquid Extract.

Evaporate twenty fluid ounces (or one thousand cubic centimetres) of Liquid Extract of Belladonna to the consistence of a thin syrup; add to it the required quantity of Milk Sugar determined from the data obtained from the foregoing experiment; continue the evaporation until the extract weighs fifteen ounces (or seven hundred and fifty grammes).

Dose.—$\frac{1}{4}$ to 1 grain.

This Alcoholic Extract of Belladonna contains one-third the proportion of alkaloids present in average samples of the Alcoholic Extract of Belladonna of the British Pharmacopœia of 1885.

EXTRACTUM BELLADONNÆ LIQUIDUM.

Liquid Extract of Belladonna.

A Liquid Extract containing ¾ grain of the alkaloids of Belladonna Root in 110 minims (0·75 gramme in 100 cubic centimetres).

Moisten eight ounces (or three hundred and twenty grammes) of Belladonna Root, in No. 20 powder, with six fluid ounces (or two hundred and forty cubic centimetres) of a mixture of seven volumes of Alcohol (90 per cent.) and one volume of Distilled Water; set aside for six hours; pack firmly in a percolator; pour over the powder six fluid ounces (or two hundred and forty cubic centimetres) of the same alcoholic menstruum; when the liquid begins to drop, close the lower orifice of the percolator; set aside for twenty-four hours; percolate slowly, adding more of the menstruum as required; collect the percolate in small portions. Moisten a second quantity of eight ounces (or three hundred and twenty grammes) of Belladonna Root, in No. 20 powder, with the first six fluid ounces (or two hundred and forty cubic centimetres) of percolate; proceed to extract this portion of the Belladonna Root in the manner directed for the first portion, but use as the menstruum the liquid collected from the first percolator. This method of repercolation is to be carried out through two more quantities each of eight ounces (or three hundred and twenty grammes) of Belladonna Root, the third portion being extracted with the liquid from the second percolator, and the fourth portion with the liquid from the third percolator. Collect twelve and a half fluid ounces (or five hundred cubic centimetres) of the strong percolate from the fourth percolator.

Determine the proportion of alkaloids in the resulting strong percolate by the following analytical process.

Introduce 10 cubic centimetres into a separator, add 10 cubic centimetres of *chloroform*, 50 cubic centimetres of *water*, and a decided excess of *solution of ammonia*; agitate; set aside; separate the chloroformic solution.

Twice repeat the agitation with *chloroform* and the separation. Shake the mixed chloroformic solutions with 5 cubic centimetres of *diluted sulphuric acid*, mixed with twice its volume of warm *water*; separate the chloroformic liquid and repeat the agitation with acidulated *water*. Wash the mixed acid liquids with 3 cubic centimetres of *chloroform*; then agitate with 10 cubic centimetres of *chloroform* and an excess of *solution of ammonia*. Separate the chloroformic solution; twice repeat the agitation with *chloroform* and the separation; wash the mixed chloroformic solutions with 5 cubic centimetres of *water* containing one drop of *solution of ammonia*; draw off the chloroformic layer into a counterpoised dish; evaporate on a water-bath; dry the residue below 212° F. (100° C.); weigh. Dissolve the residue in 10 cubic centimetres of a decinormal solution of hydrochloric acid (3·619 grammes of the acid, HCl, per litre) and add centinormal solution of soda (0·3976 gramme of sodium hydroxide, NaOH, per litre) until the liquid is neutral, using Tincture of Cochineal as an indicator. Deduct the measure of soda solution thus required, from 100 cubic centimetres, and multiply the remainder by ·00287: the product will be the weight in grammes of alkaloids present in the quantity of the percolate operated upon.

From this weight calculate the amount of alkaloids in the bulk of strong percolate, and add to the latter sufficient of the alcoholic menstruum to produce Liquid Extract of Belladonna containing 0·75 gramme of alkaloids in 100 cubic centimetres, or ¾ grain in 110 minims.

EXTRACTUM BELLADONNÆ VIRIDE.

Green Extract of Belladonna.

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Bruise the fresh leaves and young branches of Atropa Belladonna, *Linn.*, in a mortar; press out the juice and heat it to 130° F. (54·4° C.); separate the green colouring matter by a calico filter; heat the strained liquid to 200° F. (93·3° C.); filter. Evaporate the filtrate on a water-bath to the consistence of a thin syrup; add to it the green colouring matter previously separated and passed through a hair sieve, stir the whole together, and evaporate at a temperature not exceeding 140° F. (60° C.) to the consistence of a soft extract.

Dose.—¼ to 1 grain.

EXTRACTUM CANNABIS INDICÆ.

Extract of Indian Hemp.

Exhaust Indian Hemp, in coarse powder, with Alcohol (90 per cent.) by percolation; evaporate the percolate to the consistence of a soft Extract.

Dose.—¼ to 1 grain.

EXTRACTUM CASCARÆ SAGRADÆ.

Extract of Cascara Sagrada.

Synonym.—Extractum Rhamni Purshiani.

Moisten Cascara Sagrada, in No. 20 powder, with Distilled Water, and let it remain a few hours to soften and swell; then place it loosely in a percolator and percolate with more Distilled Water until it is exhausted. Evaporate on a water-bath to dryness.

Dose.—2 to 8 grains.

EXTRACTUM CASCARÆ SAGRADÆ LIQUIDUM.

Liquid Extract of Cascara Sagrada.

Synonym.—Extractum Rhamni Purshiani Liquidum.

	IMPERIAL	METRIC
Cascara Sagrada, in No. 20 powder	20 ounces	1000 grammes
Alcohol (90 per cent.)	4 fl. ounces	200 cubic centimetres
Distilled Water	a sufficient quantity	

Moisten the Cascara Sagrada with fifteen fluid ounces (or seven hundred and fifty cubic centimetres) of the Distilled Water, and set the mixture aside for six hours; then place it loosely in a percolator and percolate with more of the Distilled Water until the powder is exhausted; evaporate the percolate to twelve fluid ounces (or six hundred cubic centimetres); add the Alcohol, previously mixed with four fluid ounces (or two hundred cubic centimetres) of Distilled Water or with sufficient to make up the volume of the mixed liquids to twenty fluid ounces (or one thousand cubic centimetres) of the Liquid Extract.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

EXTRACTUM CIMICIFUGÆ LIQUIDUM.

Liquid Extract of Cimicifuga.

Synonym.—Liquid Extract of Actæa Racemosa.

	IMPERIAL	METRIC
Cimicifuga, in No. 60 powder	20 ounces	1000 grammes
Alcohol (90 per cent.)	a sufficient quantity	

Mix the Cimicifuga with two pints (or two thousand cubic centimetres) of the Alcohol; set aside in a closed vessel for forty-eight hours; transfer to a percolator; when the fluid ceases to pass, continue the percolation with more Alcohol, until the Cimicifuga is exhausted. Reserve the first fifteen fluid ounces (or seven hundred and fifty cubic centimetres) of the percolate; evaporate the remainder to the consistence of a soft extract; dissolve this in the reserved portion; add enough of the Alcohol to produce twenty fluid ounces (or one thousand cubic centimetres) of the Liquid Extract.

Dose.—5 to 30 minims.

EXTRACTUM CINCHONÆ LIQUIDUM.

Liquid Extract of Cinchona.

A Liquid Extract containing 5 grains of the alkaloids of Red Cinchona Bark in 110 minims (5 grammes in 100 cubic centimetres).

	IMPERIAL	METRIC
Red Cinchona Bark, in No. 60 powder	20 ounces	640 grammes
Hydrochloric Acid	5 fl. drachms	20 cubic centimetres
Glycerin	2½ fl. ounces	80 cubic centimetres
Alcohol (90 per cent.) Distilled Water	of each a sufficient quantity	

Mix the Red Cinchona Bark with five pints (or three thousand two hundred cubic centimetres) of the Distilled Water, to which the Hydrochloric Acid and Glycerin have been added; set aside in a covered vessel for forty-eight hours, stirring frequently; transfer to a percolator; when the liquid ceases to pass, and the contents of the percolator have been properly packed, continue the percolation with Distilled Water until fifteen pints (or nine thousand six hundred cubic centimetres) of liquid have passed, or until that which is passing has ceased to give a precipitate on the addition to it of an excess of *solution of potassium hydroxide*. Evaporate the percolate in a porcelain or enamelled iron vessel at a temperature not exceeding 180° F. (82·2° C.), until it is reduced to twenty fluid ounces (or six hundred and forty cubic centimetres) of liquid.

Determine the proportion of alkaloids in the liquid product by the following analytical process:—

Put 5 cubic centimetres of the liquid, together with 25 cubic centimetres of *water*, into a stoppered glass separator; add 30 cubic centimetres of *benzolated amylic alcohol* and 15 cubic centimetres of *solution of potassium hydroxide*; shake them together thoroughly and repeatedly; allow them to remain at rest until the spirituous solution of the alkaloids shall have separated and formed a distinct stratum over the dark-coloured alkaline liquid. Run off the latter by the stopcock into another separator; agitate it thoroughly with 30 cubic centimetres of *benzolated amylic alcohol*; allow the liquids to separate; draw off and reject the lower layer; add the alcoholic layer to the liquid in the first separator; wash the mixture with a little *water*; agitate thoroughly with 30 cubic centimetres of a warm mixture of 1 volume of *diluted hydrochloric acid* and 5 volumes of *water*; allow the liquids to separate; draw off the lower acid layer into another separator; agitate the alcoholic layer with a second quantity of 30 cubic centimetres of the mixture of *water* and *diluted hydrochloric acid*; when separated draw this off into the other portion of acid liquid; to the mixture add 10 cubic centimetres of *chloroform* and sufficient *solution of ammonia* to impart a strongly alkaline reaction; shake thoroughly; allow the liquids to separate; draw off the lower chloroformic layer into a weighed dish; repeat the agitation and separation with two successive quantities of 10 cubic centimetres of *chloroform*, and add the chloroformic liquids to that in the dish. Allow the *chloroform* to evaporate slowly; dry the residue in the dish at a temperature of about 230° F. (110° C.). The weight of the dish and its contents, after deducting the known weight of the dish, will give that of the alkaloids.

Having thus ascertained the alkaloidal strength of the twenty fluid ounces (or six hundred and forty cubic centimetres) of liquid product, every volume of it containing 5 grammes of total alkaloids is first to be brought to 85 cubic centimetres either by evaporation, or, if necessary, by dilution with Distilled Water, then a volume of 12·5 cubic centimetres of the Alcohol is to be added, and the final adjustment of the volume to 100 cubic centimetres is to be effected by the addition of Distilled Water. The finished Liquid Extract will thus contain 5 grammes of the alkaloids of the Bark in every 100 cubic centimetres, or 5 grains in 110 minims.

Dose.—5 to 15 minims.

EXTRACTUM COCÆ LIQUIDUM.

Liquid Extract of Coca.

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60
50
40

	IMPERIAL	METRIC
Coca Leaves, in No. 20 powder	20 ounces	1000 grammes
Alcohol (60 per cent.)	a sufficient quantity	

Mix the powdered Coca Leaves with two pints (or two thousand cubic centimetres) of the Alcohol; set aside in a closed vessel for forty-eight hours; transfer to a percolator; when the fluid ceases to pass, continue the percolation with more of the Alcohol until the Coca Leaves are exhausted. Reserve the first fifteen fluid ounces (or seven hundred and fifty cubic centimetres) of the percolate; evaporate the remainder, at a temperature below 176° F. (80° C.), to the consistence of a soft extract; dissolve this in the reserved portion; add enough of the Alcohol to produce twenty fluid ounces (or one thousand cubic centimetres) of the Liquid Extract.

Dose.—½ to 1 fluid drachm.

EXTRACTUM COLCHICI.

Extract of Colchicum.

Crush fresh Colchicum Corms, deprived of their coats; press out the juice; allow the feculence to subside; decant; heat the clear liquid to 212° F. (100° C.); strain through flannel, and evaporate at a temperature not exceeding 160° F. (71·1° C.) to the consistence of a soft extract.

Dose.—¼ to 1 grain.

EXTRACTUM COLOCYNTHIDIS COMPOSITUM.

Compound Extract of Colocynth.

	IMPERIAL	METRIC
Colocynth Pulp	6 ounces	150 grammes
Extract of Barbados Aloes	12 ounces	300 grammes
Scammony Resin	4 ounces	100 grammes
Curd Soap, in shavings	4 ounces	100 grammes
Cardamom Seeds, in the finest powder	1 ounce	25 grammes
Alcohol (60 per cent.)	1 gallon	4 litres

Macerate the Colocynth Pulp in the Alcohol for four days; press out the tincture; remove the alcohol by distillation; add the Extract of Aloes, Scammony Resin, and Soap;

evaporate to the consistence of a firm extract, adding the Cardamoms towards the end of the process.

Dose.—2 to 8 grains.

EXTRACTUM ERGOTÆ.

Extract of Ergot.

Synonym.—Ergotin.

	IMPERIAL	METRIC
Ergot, in No. 40 powder	20 ounces	1000 grammes
Alcohol (60 per cent.)	a sufficient quantity	
Distilled Water	a sufficient quantity	
Diluted Hydrochloric Acid	7½ fl. drachms	47 cubic centimetres
Sodium Carbonate	175 grains	20 grammes

Moisten the powdered Ergot with ten fluid ounces (or five hundred cubic centimetres) of the Alcohol; pack the damp powder in a percolator; percolate with the Alcohol until the Ergot is exhausted. Evaporate the percolate to five fluid ounces (or two hundred and fifty cubic centimetres); add five fluid ounces (or two hundred and fifty cubic centimetres) of Distilled Water; filter when cold, washing the residue with a little Distilled Water. Add the Diluted Hydrochloric Acid to the filtrate; set aside for twenty-four hours; filter; wash the residue with Distilled Water until the washings no longer have an acid reaction, adding the washings to the filtrate; add the Sodium Carbonate to the latter; evaporate to a soft extract.

Dose.—2 to 8 grains.

EXTRACTUM ERGOTÆ LIQUIDUM.

Liquid Extract of Ergot.

	IMPERIAL	METRIC
Ergot, crushed	20 ounces	400 grammes
Distilled Water	7½ pints	3000 cubic centimetres
Alcohol (90 per cent.)	7½ fl. ounces	150 cubic centimetres

Digest the crushed Ergot in five pints (or two thousand cubic centimetres) of the Distilled Water for twelve hours; draw off the infusion; repeat the digestion with the remainder of the Distilled Water; press; strain; evaporate the liquid to fourteen fluid ounces (or two hundred and eighty cubic centimetres); when cold, add the Alcohol; set aside for an hour; filter. The product should measure twenty fluid ounces (or four hundred cubic centimetres).

Dose.—10 to 30 minims.

EXTRACTUM EUONYMI SICCUM.

Dry Extract of Euonymus.

	IMPERIAL	METRIC
Euonymus Bark, in No. 20 powder	20 ounces	1000 grammes
Alcohol (45 per cent.) . .	a sufficient quantity	
Calcium Phosphate . . .	a sufficient quantity	

Moisten the powdered Euonymus Bark with ten fluid ounces (or five hundred cubic centimetres) of the Alcohol; pack in a percolator; gradually pour on more of the menstruum until the Euonymus is exhausted; collect the liquid and evaporate the alcohol; thoroughly dry the residue; powder the product as far as possible and mix it with one-fourth of its weight of Calcium Phosphate, continuing the drying and powdering until a satisfactory preparation is obtained; then immediately transfer it to a well-closed bottle.

Dose.—1 to 2 grains.

EXTRACTUM FILICIS LIQUIDUM.

Liquid Extract of Male Fern.

Exhaust Male Fern Rhizome, in No. 20 powder, with Ether, by percolation; evaporate the Ether from the clear percolate on a water-bath or by distillation, until an oily Extract remains.

Dose.—45 to 90 minims.

EXTRACTUM GENTIANÆ.

Extract of Gentian.

Infuse Gentian Root in ten times its weight of Distilled Water for two hours; boil for fifteen minutes; pour off; press; strain; evaporate the liquid to the consistence of a soft extract.

Dose.—2 to 8 grains.

EXTRACTUM GLYCYRRHIZÆ.

Extract of Liquorice.

	IMPERIAL	METRIC
Liquorice Root, in No. 20 powder . . .	1 pound .	1000 grammes
Distilled Water . .	4 pints .	5 litres

Mix the Liquorice Root with two pints (or two and a half litres) of the Distilled Water; set aside for twenty-four hours; strain; press; to the pressed marc add the remainder of the Distilled Water and set aside the mixture for six hours; strain; press; mix the strained liquids; heat to 212° F. (100° C.); strain through flannel; evaporate to the consistence of a soft extract.

EXTRACTUM GLYCYRRHIZÆ LIQUIDUM.

Liquid Extract of Liquorice.

	IMPERIAL	METRIC
Liquorice Root, in No. 20 powder . . .	20 ounces .	1000 grammes
Distilled Water . .	5 pints .	5 litres
Alcohol (90 per cent.) . .	a sufficient quantity	

Mix the Liquorice Root with half of the Distilled Water; set aside for twenty-four hours; strain; press; to the pressed marc add the remainder of the Distilled Water and set aside for six hours; strain; press; mix the strained liquids; heat to 212° F. (100° C.); strain through flannel; evaporate until the fluid has acquired, when cold, a specific gravity of 1·200; add to this one-fourth of its volume of the Alcohol; let the mixture stand for twelve hours; filter.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

EXTRACTUM HAMAMELIDIS LIQUIDUM.

Liquid Extract of Hamamelis.

	IMPERIAL	METRIC
Hamamelis Leaves, in No. 40 powder	20 ounces .	1000 grammes
Alcohol (45 per cent.) . .	a sufficient quantity	

Moisten the powdered Hamamelis Leaves with about eight fluid ounces (or four hundred cubic centimetres) of the Alcohol; pack the moistened powder in a percolator, and add sufficient menstruum to saturate it thoroughly; when the liquid begins to drop, close the lower orifice of the percolator; set aside for forty-eight hours; then allow percolation to proceed, gradually adding menstruum until the Hamamelis Leaves are exhausted; reserve the first seventeen fluid ounces (or eight hundred and fifty cubic centimetres) of the percolate; remove the alcohol from the remainder by distillation; evaporate the residue to a soft extract; dissolve this in the reserved portion; add sufficient menstruum to produce twenty fluid ounces (or one thousand cubic centimetres) of the Liquid Extract.

Dose.—5 to 15 minims.

EXTRACTUM HYDRASTIS LIQUIDUM.

Liquid Extract of Hydrastis.

	IMPERIAL	METRIC
Hydrastis Rhizome, in No. 60 powder	20 ounces .	1000 grammes
Alcohol (45 per cent.) . .	a sufficient quantity	

Moisten the powdered Hydrastis with about eight fluid ounces (or four hundred cubic centimetres) of the Alcohol;

pack the damp powder in a percolator; pour on sufficient menstruum to saturate it thoroughly; when the liquid begins to drop, close the lower orifice of the percolator; set aside for forty-eight hours; then allow percolation to proceed, gradually adding menstruum until the Hydrastis is exhausted; reserve the first seventeen fluid ounces (or eight hundred and fifty cubic centimetres) of the percolate; remove the alcohol from the remainder by distillation; evaporate the residue to a soft extract; dissolve this in the reserved portion; add sufficient menstruum to produce twenty fluid ounces (or one thousand cubic centimetres) of the Liquid Extract.

Dose.—5 to 15 minims.

EXTRACTUM HYOSCYAMI VIRIDE.

Green Extract of Hyoscyamus.

Bruise fresh leaves, flowering tops, and young branches of Hyoscyamus niger, *Linn.*; press out the juice and heat it gradually to 130° F. (54·4° C.); separate the green colouring matter by a calico filter; heat the strained liquid to 200° F. (93·3° C.); filter. Evaporate the filtrate to the consistence of a thin syrup; add to it the green colouring matter previously separated and passed through a hair sieve; stir the whole together, and evaporate at a temperature not exceeding 140° F. (60° C.), to the consistence of a soft extract.

Dose.—2 to 8 grains.

EXTRACTUM IPECACUANHÆ LIQUIDUM.

Liquid Extract of Ipecacuanha.

A Liquid Extract containing 2 to 2¼ grains of the alkaloids of Ipecacuanha Root in 110 minims (2 to 2·25 grammes in 100 cubic centimetres).

	IMPERIAL	METRIC
Ipecacuanha Root, in No. 20 powder	1 pound .	800 grammes
Calcium Hydroxide .	700 grains .	80 grammes
Alcohol (90 per cent.)	. a sufficient quantity	

Moisten the powdered Ipecacuanha Root with six fluid ounces (or three hundred cubic centimetres) of the Alcohol; pack firmly in a percolator; add more of the Alcohol, and when the liquid begins to drop, close the lower orifice of the percolator; set aside for twenty-four hours. Then percolate slowly until thirteen and a half fluid ounces (or six hundred and seventy-five cubic centimetres) have been collected; reserve this portion. Continue percolation until nothing more is extracted; drain well. Mix the Lime with the marc; allow them to remain in contact for twenty-four hours; then continue percolation until exhaustion is complete. Recover the alcohol from the last two percolates by distillation; dissolve the residual extract in the reserved portion of percolate.

Determine the proportion of alkaloids in the resulting strong liquid extract by the following analytical process:—

Dilute 20 cubic centimetres with an equal bulk of *water.* Remove the alcohol by the aid of a water-bath; add to the warm solution an excess of *solution of lead subacetate.* Filter; wash the precipitate with water and add the washings to the filtrate. Remove the excess of lead from the filtrate by precipitation with *diluted sulphuric acid*; filter; wash the precipitate with water and add the washings to the filtrate. Transfer the filtrate to a separator; add excess of *solution of ammonia* and agitate with 25 cubic centimetres of *chloroform.* Separate and set aside the chloroformic solution. Twice repeat the agitation with chloroform and the separation. Mix the chloroformic solutions; evaporate; dry at a temperature below 176° F. (80° C.), and weigh the residue of total alkaloids.

From this weight calculate the amount of alkaloids in the bulk of strong liquid extract, and add to the latter sufficient Alcohol (90 per cent.) to produce Liquid Extract of Ipecacuanha containing not less than 2 and not more than 2·25 grammes of alkaloid in 100 cubic centimetres, or from 2 to 2¼ grains in 110 minims.

Dose.—As an expectorant, ½ to 2 minims; as an emetic 15 to 20 minims.

EXTRACTUM JABORANDI LIQUIDUM.

Liquid Extract of Jaborandi.

	IMPERIAL	METRIC
Jaborandi Leaves, in No. 20 powder	20 ounces .	1000 grammes
Alcohol (45 per cent.) .	a sufficient quantity	

Moisten the powdered Jaborandi Leaves with ten fluid ounces (or five hundred cubic centimetres) of the Alcohol; pack the moistened powder in a percolator, and set aside for twelve hours; then percolate with the menstruum, collecting and reserving seventeen fluid ounces (or eight hundred and fifty cubic centimetres) of percolate; continue percolation until an additional quantity of fifty fluid ounces (or two and a half litres) of percolate is obtained; distil the latter so as to recover the alcohol, evaporate the residual aqueous liquid to the consistence of a soft extract, adding it to the reserved percolate; to the product add sufficient of the Alcohol to produce twenty fluid ounces (or one thousand cubic centimetres) of the Liquid Extract.

Dose.—5 to 15 minims.

EXTRACTUM JALAPÆ.

Extract of Jalap.

	IMPERIAL	METRIC
Jalap, in coarse powder .	1 pound .	1000 grammes
Alcohol (90 per cent.) .	4 pints .	5 litres
Distilled Water . .	1 gallon .	10 litres

Macerate the powdered Jalap in the Alcohol for seven days; press out the tincture, filter, and then remove the alcohol by distillation, leaving a soft extract. Again macerate the residue of the Jalap in the water for four hours; express; strain through flannel; evaporate to the consistence of a soft extract. Mix the two extracts, and evaporate at a temperature not exceeding 140° F. (60° C.) to the consistence of a firm extract.

Dose.—2 to 8 grains.

EXTRACTUM KRAMERIÆ.

Extract of Krameria.

Synonym.—Extract of Rhatany.

Macerate coarsely powdered Krameria Root in twice its weight of Distilled Water for twenty-four hours; pack in a percolator; and percolate with more Distilled Water until the Krameria Root is exhausted. Evaporate the liquid to dryness.

Dose.—5 to 15 grains.

EXTRACTUM NUCIS VOMICÆ.

Extract of Nux Vomica.

An Extract containing 5 per cent. of Strychnine.

	IMPERIAL	METRIC
Liquid Extract of Nux Vomica .	11 fl. ounces	550 cubic centimetres
Milk Sugar, in fine powder .	.	a sufficient quantity

Ascertain the proportion of Milk Sugar required for ten fluid ounces (or five hundred cubic centimetres) of the Liquid Extract by the following experiment on one fluid ounce (or fifty cubic centimetres).

Evaporate one fluid ounce (or fifty cubic centimetres) of the Liquid Extract of Nux Vomica in a counterpoised dish on a water-bath to a moderately firm extract, and weigh. The difference between the weight of the extract and one hundred and thirty-one and a quarter grains (or fifteen grammes), multiplied by ten, will give the amount of Milk Sugar required for the remaining ten ounces (or five hundred cubic centimetres) of the Liquid Extract of Nux Vomica.

Distil the alcohol from ten fluid ounces (or five hundred cubic centimetres) of the Liquid Extract of Nux Vomica; to the residue add the quantity of Milk Sugar shown to be required by the above experiment; mix; evaporate; to the consistence of a firm extract, which should weigh three ounces (or one hundred and fifty grammes).

Dose.—$\frac{1}{4}$ to 1 grain.

This Extract has about two-thirds the total alkaloidal strength of the Extract of Nux Vomica of the British Pharmacopœia of 1885.

EXTRACTUM NUCIS VOMICÆ LIQUIDUM.

Liquid Extract of Nux Vomica.

A Liquid Extract containing $1\frac{1}{2}$ grains of Strychnine in 110 minims (1·5 grammes in 100 cubic centimetres).

Moisten one pound (or five hundred grammes) of Nux Vomica, in No. 20 powder, with eight fluid ounces (or two hundred and fifty cubic centimetres) of Alcohol (70 per cent.); set aside in a covered vessel for six hours; pack firmly in a percolator; pour over the powder sufficient of the menstruum to saturate it and to leave a stratum above it; when the liquid begins to flow, close the lower orifice; set aside for twenty-four hours; continue slow percolation, adding more menstruum as required, until twelve fluid ounces (or three hundred and seventy-five cubic centimetres) have been collected; reserve this strong percolate. Change the receiver; continue the percolation until about sixty fluid ounces (or eighteen hundred and seventy-five cubic centimetres) of the menstruum have been employed, or until the powder is exhausted; press the marc; add the expressed liquid to the weaker percolate; remove the alcohol by distillation; evaporate the residue to one fluid ounce (or thirty-one cubic centimetres); add three fluid ounces (or ninety-three cubic centimetres) of Alcohol (90 per cent.). Add this mixture to the reserved portion; set aside for twenty-four hours; pour off the clear liquid; filter the remainder.

Determine the proportion of Strychnine in the resulting strong liquid extract by the following analytical process:—

Evaporate 10 cubic centimetres to a thick syrupy consistence on a water-bath; dissolve the residue in 20 cubic centimetres of *water*, heating if necessary; place the solution in a separator, and add 5 grammes of *sodium carbonate* dissolved in 25 cubic centimetres of *water*, together with 10 cubic centimetres of *chloroform*; agitate thoroughly; set aside; separate the clear chloroformic solution. Twice repeat the agitation with *chloroform*, and the separation. Mix 6 cubic centimetres of *diluted sulphuric acid* with 25 cubic centimetres of *water*; divide this into three parts, and shake the mixed chloroformic solutions with each in turn. Dilute the united acid liquids with *water* to 175 cubic centimetres; transfer to a stoppered flask, adding 25 cubic centimetres of *solution of potassium ferrocyanide*; shake well and frequently during half an hour; allow to stand for 6 hours. Transfer the precipitate to a small filter, rinsing out the last portions with *water* containing one-fortieth of its volume of *diluted sulphuric acid*, and wash until the washings are free from bitterness. Rinse the precipitate into a separator. Add 5 cubic centimetres of *solution of ammonia*, and shake well; then add 15 cubic centimetres of *chloroform* in two successive portions, shaking well after each addition; separate the chloroformic solutions, mix and allow the *chloroform* to evaporate in a counterpoised dish in a current of warm air; dry the residue for 1 hour on a water-bath, covering the dish to avoid loss of Strychnine from decrepitation; weigh.

From this weight calculate the amount of Strychnine in the strong liquid extract, and add to the latter sufficient Alcohol (70 per cent.) to produce a Liquid Extract of Nux Vomica containing 1·5 grammes of Strychnine in 100 cubic centimetres, or $1\frac{1}{2}$ grains in 110 minims.

Dose.—1 to 3 minims.

EXTRACTUM OPII.

Extract of Opium.

An Extract containing 20 per cent. of morphine.

	IMPERIAL	METRIC
Opium, sliced . .	1 pound .	1000 grammes
Distilled Water .	6 pints .	$7\frac{1}{2}$ litres

Set aside the sliced Opium with one third of the Distilled

Water for twenty-four hours; express the liquid; thoroughly mix the residue of the Opium with another third of the Distilled Water; set aside for twenty-four hours; express; repeat the operation with the remaining third of the Distilled Water; mix the liquids; strain through flannel; evaporate to about half a pound (or five hundred grammes).

Test.—Analysed as described under 'Opium,' using 7 grammes of the Extract in place of the 14 grammes of Opium, this Extract should yield 20 per cent. of morphine.

To obtain Extract of Opium of proper strength and consistence, stronger and weaker extracts may be mixed, and stronger extracts may be diluted with Distilled Water or with Milk Sugar as may be necessary.

Dose.—¼ to 1 grain.

EXTRACTUM OPII LIQUIDUM.

Liquid Extract of Opium.

A Liquid Extract containing ¾ grain of morphine in 110 minims (0·75 gramme in 100 cubic centimetres).

	IMPERIAL	METRIC
Extract of Opium	¾ ounce	18·75 grammes
Distilled Water	16 fl. ounces	400 cubic centimetres
Alcohol (90 per cent.)	4 fl. ounces	100 cubic centimetres

Mix the Extract of Opium with the Distilled Water; set aside for an hour, stirring frequently; add the Alcohol; set aside in a cool place for twenty-four hours; filter. The product should measure one pint (or five hundred cubic centimetres). Specific gravity from 0·985 to 0·995.

Test.—Analysed as described under 'Tinctura Opii,' this Liquid Extract should yield an amount of morphine, reckoned as anhydrous, corresponding to not less than 0·7 gramme nor more than 0·8 gramme in 100 cubic centimetres.

Dose.—5 to 30 minims.

Each fluid ounce of Liquid Extract of Opium represents 16½ grains of Extract of Opium; 20 cubic centimetres represent 0·75 gramme.

EXTRACTUM PAREIRÆ LIQUIDUM.

Liquid Extract of Pareira.

Add to Pareira Root, in No. 40 powder, rather more than an equal bulk of boiling Distilled Water and set aside for twenty-four hours; then pack in a percolator and pass boiling Distilled Water slowly until the percolate amounts to about ten times the weight of the Pareira Root, or until the latter is exhausted. Ascertain the proportion of extractive matter in the percolate by evaporating a small weighed quantity in a counterpoised dish on a water-bath to a firm consistence, and weighing the product. Then evaporate the bulk of the percolate until the residual liquid contains one third of its weight of such extractive matter; mix with this residual liquid sufficient Alcohol (90 per cent.) to produce from three volumes of the evaporated liquid four volumes of Liquid Extract of Pareira. Filter, or otherwise clarify, if necessary.

Dose.—½ to 2 fluid drachms.

EXTRACTUM PHYSOSTIGMATIS.

Extract of Calabar Bean.

	IMPERIAL	METRIC
Calabar Bean, in No. 40 powder . . .	1 pound .	1000 grammes
Alcohol (90 per cent.) .	4 pints .	5 litres
Milk Sugar, in fine powder .	a sufficient quantity	

Mix the powdered Calabar Bean with one pint (or twelve hundred and fifty cubic centimetres) of the Alcohol; set aside in a closed vessel for forty-eight hours, agitating occasionally; transfer to a percolator; when the liquid ceases to pass, add the remainder of the Alcohol so that it may slowly percolate through the powder; remove the marc and subject it to pressure; add the expressed liquid to the percolate; filter; recover most of the alcohol by distillation; transfer the residue to a counterpoised basin, and evaporate to the consistence of a very soft extract; weigh; then add three times its weight of Milk Sugar and mix thoroughly to produce a firm Extract.

Dose.—¼ to 1 grain.

This preparation is one fourth the strength of the Extract of Calabar Bean of the British Pharmacopœia of 1885.

EXTRACTUM RHEI.

Extract of Rhubarb.

Moisten Rhubarb Root, in No. 20 powder, with Alcohol (60 per cent.), and set aside for forty-eight hours; transfer to a percolator; slowly pass as much of the Alcohol as may be sufficient to exhaust the Rhubarb Root. Remove most of the alcohol by distillation, and evaporate the residual liquid to dryness.

Dose.—2 to 8 grains.

EXTRACTUM SARSÆ LIQUIDUM.

Liquid Extract of Sarsaparilla.

	IMPERIAL	METRIC
Sarsaparilla, in No. 40 powder	20 ounces .	1000 grammes
Alcohol (20 per cent.) . .	a sufficient quantity	
Glycerin	2 fl. ounces	100 cubic centimetres

Divide the Sarsaparilla into three portions. Moisten one portion with four fluid ounces (or two hundred cubic centimetres) of the Alcohol; pack in a percolator; set aside for twenty-four hours; percolate with the Alcohol until a quantity of four fluid ounces (or two hundred cubic centimetres) is obtained. Moisten the second portion of the drug with this liquid; pack in a percolator; set aside for twenty-four hours; percolate with a menstruum obtained by further percolation of the first portion; continue until a quantity of four fluid ounces (or two hundred cubic centimetres) is obtained. Moisten the third portion of the drug with this liquid; pack in a percolator; set aside for twenty-four hours; percolate with a menstruum obtained by successive percolation through the first and second portions as directed above; collect eighteen fluid ounces (or nine hundred cubic centimetres) from the third percolator; add the Glycerin. The product should measure one pint (or one thousand cubic centimetres).

Dose.—2 to 4 fluid drachms.

EXTRACTUM STRAMONII.

Extract of Stramonium.

Pack Stramonium Seeds, in No. 40 powder, in a percolator; exhaust the powder by slow percolation with Alcohol (70 per cent.); remove most of the alcohol from the percolate by distillation; evaporate the residual liquid to the consistence of a firm extract.

Dose.—¼ to 1 grain.

EXTRACTUM STROPHANTHI.

Extract of Strophanthus.

	IMPERIAL	METRIC
Strophanthus Seeds, reduced to No. 30 powder, and dried at 110° F. (43·3° C.)	1 ounce	25 grammes
Purified Ether Alcohol (90 per cent.) Milk Sugar	of each	a sufficient quantity

Pack the dried powder in a percolator, and having moistened it with the Ether, macerate for twenty-four hours; then allow percolation to proceed, continuing the addition of the Ether until the liquid passes through colourless. Remove the marc from the percolator, and dry it, gradually heating it to 120° F. (48·9° C.). Again reduce it to powder, repack in the percolator, and moisten with the Alcohol. Macerate for forty-eight hours, then pour on successive quantities of the Alcohol, percolating slowly, until half a pint (or two hundred and fifty cubic centimetres) of liquid is obtained.

Evaporate most of the alcohol; transfer the residual liquid to a counterpoised basin; concentrate until the liquid begins to thicken; then add sufficient finely powdered Milk Sugar to produce two ounces (or fifty grammes) of Extract, in powder.

Dose.—¼ to 1 grain.

EXTRACTUM TARAXACI.

Extract of Taraxacum.

Crush fresh Taraxacum Root; press out the juice; allow the feculence to subside; heat the liquid to 212° F. (100° C.), and maintain the temperature for ten minutes; strain; evaporate to the consistence of a soft extract.

Dose.—5 to 15 grains.

EXTRACTUM TARAXACI LIQUIDUM.

Liquid Extract of Taraxacum.

	IMPERIAL	METRIC
Taraxacum Root, dried, in No. 20 powder	20 ounces	1000 grammes
Alcohol (60 per cent.)	2 pints	2000 cubic centimetres
Distilled Water	a sufficient quantity	

Mix the powdered Taraxacum Root with the Alcohol; set aside in a closed vessel for forty-eight hours; press out ten fluid ounces (or five hundred cubic centimetres) of liquid; set the latter aside; mix the pressed residue with two pints (or two thousand cubic centimetres) of the Distilled Water; set aside for forty-eight hours; press out and strain the liquid; evaporate to about ten ounces (or five hundred cubic centimetres); mix the two liquids; if necessary make up the volume to twenty fluid ounces (or one thousand cubic centimetres) by the addition of Distilled Water; filter.

Dose.—½ to 2 fluid drachms.

FEL BOVINUM PURIFICATUM.

Purified Ox Bile.

Evaporate one pint (or five hundred cubic centimetres) of fresh ox bile to one quarter of its volume; shake it with half a pint (or two hundred and fifty cubic centimetres) of Alcohol (90 per cent.); set the mixture aside until the solid matter has subsided; decant the clear solution, and filter the remainder, washing the filter and contents with a little more Alcohol (90 per cent.). Distil off most of the alcohol from the mixed liquids, and evaporate the residue in a porcelain dish, by the heat of a water-bath, until it acquires the consistence of a thick extract.

Characters and Tests.—A yellowish-green hygroscopic substance, having a taste partly sweet and partly bitter, soluble in *water* and in *alcohol* (90 per cent.). A solution in twenty or thirty times its weight of *water*, when treated, first with a drop of freshly made syrup consisting of one part of Refined Sugar and four of *water*, and then with *sulphuric acid* cautiously added until the precipitate at first formed is redissolved, gradually acquires a cherry-red colour, which changes in succession to carmine, purple, and violet. Its aqueous solution gives no precipitate on the addition of *alcohol* (90 per cent.) (absence of unpurified ox bile).

Dose.—5 to 15 grains.

FERRI ARSENAS.

Iron Arsenate.

Arseniate of Iron, Brit. Pharm. 1885.

Ferrous arsenate, $Fe_3(AsO_4)_2,6H_2O$, with ferric arsenate and some iron oxide.

	IMPERIAL	METRIC
Ferrous Sulphate . .	20¾ ounces .	415 grammes
Sodium Arsenate . .	26½ ounces .	530 grammes
Sodium Bicarbonate .	4½ ounces .	90 grammes
Distilled Water, boiling .	a sufficient quantity	

Dissolve the Sodium Arsenate in about five pints (or two litres), and the Ferrous Sulphate in about six pints (or two thousand four hundred cubic centimetres), of the Distilled Water; mix the solutions; add the Sodium Bicarbonate dissolved in a little cold Distilled Water; stir thoroughly; collect the resulting precipitate on a calico filter; wash until free from sulphates; squeeze the washed precipitate between folds of strong linen in a screw-press; dry it on porous bricks in a warm air-chamber, the temperature of which does not exceed 100° F. (37·8° C.).

Characters and Tests.—A tasteless amorphous powder of a greenish colour, insoluble in *water*, but readily dissolved by *hydrochloric acid*. It affords the reactions characteristic of ferrous and ferric salts and of arsenates. Each gramme dissolved in an excess of *sulphuric acid* diluted with *water* should not cease to give a blue precipitate with *solution of potassium ferricyanide* until at least 6·7 cubic centimetres of the *volumetric solution of potassium bichromate* have been added, corresponding to nearly $12\frac{1}{2}$ per cent. of hydrous, or 10 per cent. of anhydrous, ferrous arsenate. It should yield no characteristic reaction with the tests for sulphates.

Dose.—$\frac{1}{16}$ to $\frac{1}{4}$ grain.

FERRI CARBONAS SACCHARATUS.

Saccharated Iron Carbonate.

Ferrous oxycarbonate, $x\mathrm{FeCO_3},y\,\mathrm{Fe(OH)_2}$, more or less oxidised, mixed with sugar; the ferrous salt, if reckoned as carbonate, $\mathrm{FeCO_3}$, forming about one-third of the mixture.

	IMPERIAL	METRIC
Ferrous Sulphate .	2 ounces	40 grammes
Ammonium Carbonate .	$1\frac{1}{4}$ ounces	25 grammes
Distilled Water, boiling	2 gallons	6400 cubic centimetres
Refined Sugar . .	1 ounce	20 grammes

Dissolve the Ferrous Sulphate and the Ammonium Carbonate each in one quarter of the Distilled Water; add the former to the latter with brisk stirring, in a deep cylindrical vessel; cover this so as to protect it as much as possible from the air; set the mixture aside for twenty-four hours; separate the supernatant liquid from the precipitate by means of a siphon; pour on the remainder of the Distilled Water; stir well; after subsidence remove the clear liquid; collect the precipitate on a calico filter; subject it to expression; triturate it with the Refined Sugar in a porcelain mortar; dry the mixture at a temperature not exceeding 212° F. (100° C.).

Characters and Tests.—Small coherent lumps or powder, of a brownish-grey colour with a sweet, feebly chalybeate taste. It dissolves with effervescence in warm *hydrochloric acid* diluted with half its volume of *water*. Each gramme, dissolved in excess of warm Concentrated Phosphoric Acid and diluted with *water*, should not cease to give a blue precipitate with *solution of potassium ferricyanide* until at least 29 cubic centimetres of the *volumetric solution of potassium bichromate* have been added. It should yield only the slightest characteristic reactions with the tests for sulphates.

Dose.—10 to 30 grains.

FERRI ET AMMONII CITRAS.

Iron and Ammonium Citrate.

	IMPERIAL	METRIC
Solution of Ferric Sulphate .	10 fl. ounces or a sufficient quantity	200 cubic centimetres or a sufficient quantity
Solution of Ammonia . .	23 fl. ounces or a sufficient quantity	460 cubic centimetres or a sufficient quantity
Citric Acid. .	4 ounces	80 grammes
Distilled Water . . .	a sufficient quantity	

Prepare ferric hydroxide as follows:—Mix sixteen fluid ounces (or three hundred and twenty cubic centimetres) of the Solution of Ammonia with two pints (or eight hundred cubic centimetres) of Distilled Water; gradually add to this the Solution of Ferric Sulphate, previously diluted with two pints (or eight hundred cubic centimetres) of Distilled Water; stir constantly and briskly, taking care that ammonia is, finally, in slight excess as indicated by the odour; set aside the mixture for two hours, stirring it occasionally; pour it on a calico filter; when the liquid has drained away, wash the precipitated ferric hydroxide with Distilled Water until free from sulphates.

Dissolve the Citric Acid in its own weight of Distilled Water; warm the mixture on a water-bath; add the ferric hydroxide, previously well drained; stir them together until nearly the whole of the hydroxide has dissolved, or until the Citric Acid is saturated with ferric hydroxide (prepared, if necessary, from more of the Solution of Ferric Sulphate); let the solution cool; add five and a half fluid ounces (or one hundred and ten cubic centimetres) of Solution of Ammonia; filter through flannel, adding some Distilled Water if necessary; evaporate to the consistence of syrup, the presence of a very slight excess of ammonia being maintained; dry in thin layers on flat porcelain or glass plates at a temperature not exceeding 100° F. (37·8° C.); remove the dry flakes of Iron and Ammonium Citrate.

Characters and Tests.—In thin transparent scales of a deep red colour, slightly sweetish and astringent in taste. It feebly reddens *litmus*, is soluble in half its weight of *water*, and almost insoluble in *alcohol* (90 per cent.). When incinerated with free access of air, it leaves 31 or 32 per cent. of ferric oxide, which is not alkaline to *litmus* (absence of fixed alkali). Heated with *solution of potassium hydroxide* it evolves ammonia and deposits ferric hydroxide. The alkaline solution from which the iron has separated does not, when slightly supersaturated with *acetic acid*, give any crystalline precipitate (absence of tartrates). It should not yield more than the slightest characteristic reactions with the tests for sulphates.

Dose.—5 to 10 grains.

FERRI ET QUININÆ CITRAS.

Iron and Quinine Citrate.

	IMPERIAL	METRIC
Solution of Ferric Sulphate .	9 fl. ounces .	180 cubic centimetres
Quinine Sulphate	2 ounces . .	40 grammes
Diluted Sulphuric Acid . .	3 fl. ounces .	60 cubic centimetres
Citric Acid .	6 ounces and 60 grains . .	123 grammes
Solution of Ammonia. . . Distilled Water	. of each a sufficient quantity	

Prepare ferric hydroxide from nine fluid ounces (or two hundred cubic centimetres) of Solution of Ferric Sulphate as directed under 'Ferri et Ammonii Citras.'

Mix the Quinine Sulphate with eight times its weight of Distilled Water; add the Diluted Sulphuric Acid; when the salt is dissolved precipitate the quinine with a slight excess of Solution of Ammonia; collect the precipitate on a filter; wash it with three pints (or twelve hundred cubic centimetres) of Distilled Water.

Dissolve the Citric Acid in its own weight of Distilled Water; warm the solution on a water-bath; add the ferric hydroxide, previously well drained; stir them together; when the hydroxide has dissolved, add the precipitated quinine; continue the agitation until this also has dissolved; let the solution cool; add, in small quantities at a time, three fluid ounces (or sixty cubic centimetres) of Solution of Ammonia, diluted with four fluid ounces (or eighty cubic centimetres) of Distilled Water; stir briskly, allowing the quinine which separates with each addition of ammonia to dissolve before the next addition is made; filter the solution; evaporate it to the consistence of a thin syrup; dry the latter in thin layers on flat porcelain or glass plates at a temperature of 100° F. (37·8° C.); remove the dry flakes of Iron and Quinine Citrate.

Characters and Tests.—In thin scales of a greenish golden-yellow colour, somewhat deliquescent. Soluble in half its weight of cold *water*. The solution is very slightly acid, and yields precipitates which are reddish-brown with *solution of potassium hydroxide*, white with *solution of ammonia*, blue with *solution of potassium ferrocyanide* and with *solution of potassium ferricyanide*, and greyish black with *solution of tannic acid*. The salt has a bitter, chalybeate taste. When incinerated with free access of air, it leaves a residue which when moistened with *water* is not alkaline to test-paper (absence of fixed alkali). 5 grammes dissolved in 45 cubic centimetres of *water* and treated with a slight excess of *solution of ammonia* should yield a white precipitate, which, when dissolved out by repeated treatment of the liquid with *ether*, and the latter evaporated, and the residue completely dried at 248° F. (120° C.), weighs 0·75 gramme. This precipitate is almost entirely soluble in a little *purified ether*; when burned it leaves but a minute residue; neutralised by *sulphuric acid*, it should answer to the characters of and tests for Quinine Sulphate.

Dose.—5 to 10 grains.

FERRI PHOSPHAS.

Iron Phosphate.

A powder containing not less than 47 per cent. of hydrous ferrous phosphate, $Fe_3(PO_4)_2 8H_2O$, with ferric phosphate and some iron oxide.

	IMPERIAL	METRIC
Ferrous Sulphate	3 ounces	60 grammes
Sodium Phosphate	$2\frac{3}{4}$ ounces	55 grammes
Sodium Bicarbonate	$\frac{3}{4}$ ounce	15 grammes
Distilled Water, boiling	a sufficient quantity	

Dissolve the Ferrous Sulphate in thirty fluid ounces (or six hundred cubic centimetres) of the Distilled Water, and the Sodium Phosphate in an equal quantity of Distilled Water; when each of the solutions has cooled to between 100° and 130° F. (37·8° and 54·4° C.), add the latter to the former, pouring in also a solution of the Sodium Bicarbonate in a little Distilled Water; mix thoroughly; transfer the precipitate to a calico filter; wash it with hot Distilled Water until the washings no longer afford any reaction with the tests for sulphates; finally dry the precipitate at a temperature not exceeding 120° F. (48·9° C.).

Characters and Tests.—A slate-blue amorphous powder, insoluble in *water*, soluble in *hydrochloric acid.* The solution yields a precipitate with *solutions of potassium ferrocyanide* and *ferricyanide*; and when treated with *tartaric acid* and an excess of *solution of ammonia*, and subsequently with the *solution of magnesium ammonio-sulphate*, it gives a white granular precipitate. Each gramme dissolved in *hydrochloric acid* should not cease to yield a blue precipitate with *solution of potassium ferricyanide* until at least 28·2 cubic centimetres of the *volumetric solution of potassium bichromate* have been added. It should yield no characteristic reaction with the tests for arsenium.

Dose.—5 to 10 grains.

FERRI SULPHAS.

Ferrous Sulphate.

Ferrous Sulphate, $FeSO_4,7H_2O$, may be prepared by the interaction of diluted sulphuric acid and iron.

Characters and Tests.—In oblique rhombic prisms, of a pale bluish-green colour and astringent taste; insoluble in *alcohol* (90 per cent.), soluble in less than 2 parts of cold *water* and giving a clear solution (absence of oxysulphate). It affords the reactions characteristic of ferrous salts and of sulphates. Each gramme dissolved in *water* acidulated with *sulphuric acid* should not cease to yield a blue precipitate with *solution of potassium ferricyanide* until 36 cubic centimetres of the *volumetric solution of potassium bichromate* have been added. It should yield no characteristic reaction with the tests for copper, zinc, potassium, sodium, or ammonium. Its solution in *water* should not give any precipitate with *hydrogen sulphide* (absence of ferric compounds, etc.).

Dose.—1 to 5 grains.

FERRI SULPHAS EXSICCATUS.

Exsiccated Ferrous Sulphate.

Dried Sulphate of Iron, Brit. Pharm. 1885.

Expose Ferrous Sulphate, $FeSO_4,7H_2O$, in a porcelain or iron dish to a temperature of 212° F. (100° C.), stirring occasionally until aqueous vapour ceases to be given off; reduce the residue, which should weigh about 60 per cent. of the original salt, to a fine powder.

Characters and Test.—A nearly white powder, slowly but entirely soluble in *water*. Each gramme dissolved in *water* acidulated with *sulphuric acid* should not cease to yield a blue precipitate with *solution of potassium ferricyanide* until at least 54·6 cubic centimetres of the *volumetric solution of potassium bichromate* have been added, corresponding to at least $92\frac{1}{2}$ per cent. of Exsiccated Ferrous Sulphate, $FeSO_4,H_2O$.

Dose.—$\frac{1}{2}$ to 3 grains.

FERRUM.

Iron.

Annealed iron wire, having a diameter of about 0·005 inch (0·1 millimetre) (about No. 35 wire gauge), or wrought iron nails, free from oxide.

FERRUM REDACTUM.

Reduced Iron.

A fine powder, containing at least 75 per cent. of metallic iron, with a variable amount of iron oxide; prepared by reducing ferric hydroxide, heated to dull redness, by a stream of dry hydrogen.

Characters and Tests.—A fine greyish-black powder, strongly attracted by the magnet, and producing metallic streaks when rubbed with firm pressure in a mortar. It dissolves in *hydrochloric acid* with the evolution of hydrogen, and without any smell of hydrogen sulphide, and the solution gives a light-blue precipitate with *solution of* *potassium ferrocyanide.* If 0·25 gramme be added to a hot solution of 1 gramme of *copper sulphate* in 15 cubic centimetres of *water*, in a flask that can immediately be well corked, and the whole be shaken occasionally during ten minutes, the liquid, after being rapidly filtered with the minimum of exposure to air, and acidulated with sulphuric acid, should not cease to yield a blue precipitate with *solution of potassium ferricyanide* until at least 33·7 cubic centimetres of the *volumetric solution of potassium bichromate* have been added.

Dose.—1 to 5 grains.

FERRUM TARTARATUM.

Tartarated Iron.

	IMPERIAL	METRIC
Solution of Ferric Sulphate . .	10 fl. ounces	200 cubic centimetres
Solution of Ammonia . .	16 fl. ounces or a sufficient quantity	320 cubic centimetres or a sufficient quantity
Acid Potassium Tartrate, in powder . .	3 ounces and 146 grains	66·5 grammes
Distilled Water . .	a sufficient quantity	a sufficient quantity

Prepare ferric hydroxide from ten fluid ounces (or two hundred cubic centimetres) of Solution of Ferric Sulphate as directed under 'Ferri et Ammonii Citras.'

Mix the ferric hydroxide intimately with the Acid Potassium Tartrate in a porcelain dish; let the mixture stand for twenty-four hours; heat to a temperature not exceeding 140° F. (60° C.), add gradually a pint and a half (or six hundred cubic centimetres) of Distilled Water; stir constantly until nothing more will dissolve; filter; evaporate at a temperature not exceeding 140° F. (60° C.) to the consistence of syrup; dry in thin layers on flat porcelain or glass plates in a drying closet at a temperature not exceeding 100° F. (37·8° C.); remove the dry flakes of Tartarated Iron.

Characters and Tests.—In thin transparent scales of a deep garnet colour, somewhat sweetish and astringent in taste, soluble in *water* and sparingly soluble in *alcohol* (90 per cent.). The aqueous solution, when acidulated with *hydrochloric acid*, affords a copious blue precipitate with *solution of potassium ferrocyanide*, but none or only a greenish turbidity with *solution of potassium ferricyanide*. When the salt is boiled with *solution of sodium hydroxide*, a reddish-brown precipitate separates, and the filtered solution, when slightly acidulated with *acetic acid*, yields, as it cools, a crystalline deposit, especially if the solution is previously mixed with a little *alcohol* (90 per cent.). By incinerating 10 grammes at a red heat, washing the residue with *water*, and again incinerating with free access of air, a residue of ferric oxide is obtained weighing not less than 3 grammes.

Dose.—5 to 10 grains.

FICUS.

Figs.

The dried fleshy receptacles of Ficus Carica, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. iv. plate 228].

Characters.—The fig consists of the enlarged hollow succulent receptacle, bearing very numerous achenes on its inner surface. As met with in commerce it is compressed, irregular in form, soft, tough, brownish or yellowish, with a sweet taste.

FILIX MAS.

Male Fern.

The rhizome of Aspidium Filix-mas, *Swartz* [*Bentl. and Trim. Med. Pl.* vol. iv. plate 300]. Collected late in the autumn, divested of its roots, leaves, and dead portions, and carefully dried.

Characters.—From three to six inches (seven and a half to fifteen centimetres) or more in length, the rhizome itself from three-quarters to one inch (two to two and a half centimetres) in diameter. Entirely covered with the hard, persistent, curved, angular, dark-brown bases of the petioles, which bear numerous brown membranous scales. The rhizome is brown externally, but green internally. The bases of the petioles are also green internally, and exhibit in transverse section about eight pale yellow fibro-vascular bundles in each, arranged in a diffuse circle. Odour feeble but disagreeable; taste sweetish and astringent at first, but subsequently bitter and nauseous.

Male Fern should not be kept more than a year.

FŒNICULI FRUCTUS.

Fennel Fruit.

The dried ripe fruit of Fœniculum capillaceum, *Gilib.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 123], collected from cultivated plants.

Characters.—From one-fifth to about two-fifths of an inch (five to ten millimetres) long, and about one-tenth of an inch (three millimetres) in diameter, oblong, more or less curved, capped by a conspicuous stylopod and two styles, glabrous, greenish-brown or pale yellowish-brown in colour; odour aromatic; taste aromatic, sweet, and agreeable. The Fruit is readily separated into its two mericarps, each of which has five prominent primary ridges and exhibits in transverse section six large vittæ.

GALBANUM.

Galbanum.

A gum-resin obtained from Ferula galbaniflua, *Boiss. and Buhse* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 128], and probably from other species.

Characters and Tests.—In tears or in masses of agglutinated tears. The tears are rounded or irregular in form, and vary in size from that of a lentil to that of a hazel nut, although rarely exceeding that of a pea; yellowish-brown or orange-brown externally; often rough and dirty on the surface, usually opaque and yellowish-white internally; sometimes more or less translucent, bluish-green in colour, and mixed with transverse slices of the root. They are hard and brittle in cold weather, but soften in the summer, and by the heat of the hand become ductile and sticky. The masses are irregular in form and vary in colour from yellowish-brown to translucent bluish-green. The taste is bitter and unpleasant; both taste and odour are characteristic. If a small fragment is heated to redness in a dry test-tube, the contents of the tube, after cooling, yield with boiling *water* a solution which, when largely diluted and rendered alkaline by *solution of ammonia*, exhibits a blue fluorescence.

Dose.—5 to 15 grains.

GALLA.

Galls.

Excrescences on Quercus infectoria, *Olivier* [*Bentl. and Trim. Med. Pl.* vol. iv. plate 249], resulting from the puncture and deposition of an egg or eggs of Cynips Gallæ tinctoriæ, *Olivier* [*Steph. and Church. Med. Bot.* plate 152].

Characters.—Hard, heavy, subglobular, from half an inch to three-quarters of an inch (twelve to eighteen millimetres) or more in diameter, tuberculated on the surface, the tubercules and intervening spaces being smooth; dark bluish-green or dark olive-green externally, yellowish or brownish-white within, with a small central cavity. No odour; taste intensely astringent.

GELATINUM.

Gelatin.

effective

The air-dried product of the action of boiling water on such animal tissues as skin, tendons, ligaments, and bones.

Characters and Tests.—In translucent and almost colourless sheets or shreds. A solution in 50 parts of hot *water* is inodorous, and solidifies to a jelly on cooling. Gelatin is insoluble in *alcohol* (90 per cent.) and *ether*. It dissolves in *acetic acid*. Its aqueous solution yields a precipitate with *solution of tannic acid*, but not with solutions of other acids, nor with *solution of alum*, *solution of lead acetate*, or *test-solution of ferric chloride*.

GELSEMII RADIX.

Gelsemium Root.

The dried rhizome and roots of Gelsemium nitidum, *Michaux* [*Bentl. and Trim. Med. Pl.* vol. iii. plate 181].

Characters.—In nearly cylindrical pieces of about six inches (fifteen centimetres) or more in length, and varying usually from one-quarter to three-quarters of an inch (six to eighteen millimetres) in thickness; occasionally with fibrous roots attached to them. The fracture is splintery; the transverse section exhibits a thin cortex, and a porous yellowish wood which is rendered distinctly radiate by the presence of numerous, conspicuous, straight medullary rays. The rhizome has usually a brown or dark brownish-violet cork often much fissured, is nearly straight, and exhibits silky fibres in the bast; the root is yellowish-brown, finely wrinkled, and somewhat tortuous. Taste bitter; odour slightly aromatic.

GENTIANÆ RADIX.

Gentian Root.

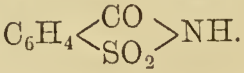
The dried rhizome and roots of Gentiana lutea, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. iii. plate 182].

Characters and Test.—In nearly cylindrical pieces, entire or longitudinally split, varying in length, but seldom exceeding an inch (two and a half centimetres) in thickness, yellowish-brown externally, and longitudinally wrinkled. The rhizome bears in addition closely approximated encircling leaf scars, and is frequently terminated by a bud. Gentian Root is tough when slightly moist, but brittle when dried. The fractured surface is of a nearly uniform reddish-yellow colour. The central portion consists principally of parenchymatous tissue, is soft and is not distinctly radiate. Gentian Root should not yield any definite reactions with the tests for starch. The odour is characteristic; the taste is at first slightly sweet but afterwards bitter.

GLUSIDUM.

Gluside.[1]

Synonym.—Glucusimide.

Gluside, or benzoyl sulphonimide, is a sweet imide derivable from toluene. Its constitution is represented by the formula  $C_6H_4\Big<\begin{matrix}CO\\SO_2\end{matrix}\Big>NH$.

Characters and Tests.—A light, white, minutely crystalline powder, having an intensely sweet taste in dilute solutions. When heated it fuses, and then sublimes with partial decomposition. It is soluble in 400 parts of cold *water*, in 24 parts of boiling *water*, in 25 parts of *alcohol* (90 per cent.), and but slightly in *ether* or *chloroform*. It is very soluble in diluted *solution of ammonia*; also in solution of *sodium bicarbonate*, with evolution of carbonic anhydride. A warm solution of *sodium bicarbonate*, when neutralised with Gluside and evaporated to dryness, yields 'soluble gluside' or 'soluble saccharin,' which is very soluble in *water*, 100 parts of Gluside yielding nearly 113 parts of neutral 'soluble gluside.' Neither Gluside nor soluble gluside is blackened by *sulphuric acid*, even when the mixture is gently warmed for a short time (absence of sugar, etc.). On evaporating either variety with excess of *solution of potassium hydroxide*, maintaining the residue in a state of semifusion for a few minutes, cooling, dissolving in *water*, faintly acidulating with *hydrochloric acid*, and adding a few drops of *test-solution of ferric chloride*, a reddish-brown or purplish colour is produced. A solution of 0·5 gramme of Gluside in 80 cubic centimetres of warm *water*, set aside for 12 hours, deposits tabular crystals which melt between 426° F. and 428° F. (218·8° C. and 220° C.); and it should not, even when briskly shaken, deposit crystals melting at a higher temperature (absence of sulphamido-benzoic acid).

[1] Gluside is commonly known as 'saccharin.'

GLYCERINUM.

Glycerin.

Glycerin, or glycerol, is a trihydric alcohol, $C_3H_5(OH)_3$, associated with a small percentage of water; it is obtained by the interaction of alkalis, or of superheated steam, with fats and fixed oils.

Characters and Tests.—A clear colourless syrupy liquid, of a sweet taste; inodorous, miscible with *water* and *alcohol* (90 per cent.); neutral to *litmus*; insoluble in *ether*, *chloroform*, and fixed oils. It absorbs moisture when exposed to the air. When decomposed by heat it evolves intensely irritating vapours. Specific gravity 1·260. It should yield no characteristic reaction with the tests for lead, copper, arsenium, iron, calcium, potassium, sodium, ammonium, chlorides, or sulphates; and no red precipitate with excess of *solution of potassio-cupric tartrate* on boiling, even when previously acidified and boiled (absence of grape and cane sugars). It should undergo no darkening in colour at ordinary temperatures when mixed with an equal volume of *solution of ammonia* and a few drops of *solution of silver nitrate*; and when shaken with an equal volume of *sulphuric acid*, the mixture being kept cool, no coloration, or only a very slight straw coloration should result (absence of foreign organic matter). When gently heated with a mixture, in equal volumes, of *alcohol* (90 per cent.) and *diluted sulphuric acid*, a fruity odour should not be produced (absence of butyric acid). 2 cubic centimetres diluted with 5 cubic centimetres of a mixture of 1 part of *hydrochloric acid* and 7 parts of *water*, 1 gramme of pure *zinc* being added, and the whole placed in a long test-tube, the mouth of which is covered by a piece of filter paper moistened with a drop or two of *test-solution of mercuric chloride* and dried, should not afford a yellow stain on the paper even after 15 minutes (limit of arsenium). When heated in an open capsule it yields acrid vapours; and is finally dissipated, leaving no ash (absence of fixed mineral matter).

Dose.—1 to 2 fluid drachms.

GLYCERINUM ACIDI BORICI.

Glycerin of Boric Acid.

	IMPERIAL	METRIC
Boric Acid, in fine powder .	6 ounces .	300 grammes
Glycerin .	a sufficient quantity	

Heat nine ounces (or four hundred and fifty grammes) of Glycerin, in a weighed porcelain dish, to a temperature not exceeding 302° F. (150° C.), and add the Boric Acid in portions, constantly stirring. When all is dissolved maintain the temperature of the liquid, frequently stirring and breaking up the film which forms on the surface, until the mixture has been reduced to the weight of ten ounces (or five hundred grammes); then add ten ounces (or five hundred grammes) of Glycerin; mix thoroughly. The product should weigh twenty ounces (or one thousand grammes).

GLYCERINUM ACIDI CARBOLICI.

Glycerin of Phenol.

	IMPERIAL	METRIC
Phenol . . .	1 ounce .	20 grammes
Glycerin, sufficient to produce .	5 fl. ounces .	100 cubic centimetres

Triturate the Phenol with the Glycerin until solution is effected.

GLYCERINUM ACIDI TANNICI.

Glycerin of Tannic Acid.

	IMPERIAL	METRIC
Tannic Acid .	1 ounce .	20 grammes
Glycerin, sufficient to produce .	5 fl. ounces .	100 cubic centimetres

Triturate the Tannic Acid with the Glycerin until solution is effected.

GLYCERINUM ALUMINIS.

Glycerin of Alum.

	IMPERIAL	METRIC
Alum, in powder	1 ounce	20 grammes
Distilled Water	3 fl. drachms	7·5 cubic centimetres
Glycerin, sufficient to produce	6 fl. ounces	120 cubic centimetres

Triturate until solution is effected, warming slightly if necessary; set aside; pour off the clear liquid from any deposited matter that may be present.

GLYCERINUM AMYLI.

Glycerin of Starch.

	IMPERIAL	METRIC
Starch	1 ounce	20 grammes
Glycerin	6½ fl. ounces	130 cubic centimetres
Distilled Water	1½ fl. ounces	30 cubic centimetres

Mix; heat them together, stirring constantly, until a translucent jelly is formed.

GLYCERINUM BORACIS.

Glycerin of Borax.

	IMPERIAL	METRIC
Borax	1 ounce	20 grammes
Glycerin	6 fl. ounces	120 cubic centimetres

Triturate the Borax with the Glycerin until solution is effected.

GLYCERINUM PEPSINI.

Glycerin of Pepsin.

	IMPERIAL	METRIC
Pepsin	800 grains	80 grammes
Hydrochloric Acid	110 minims	10 cubic centimetres
Glycerin	12 fl. ounces	525 cubic centimetres
Distilled Water	a sufficient quantity	

Mix the Hydrochloric Acid, Glycerin, and six fluid ounces (or two hundred and sixty cubic centimetres) of the Distilled Water; then add the Pepsin; after one week, pour off the clear liquid, or filter; add sufficient Distilled Water to produce one pint (or eight hundred and seventy-five cubic centimetres).

Dose.—1 to 2 fluid drachms.

1 fluid drachm of this preparation represents 5 grains of Pepsin.

GLYCERINUM PLUMBI SUBACETATIS.

Glycerin of Lead Subacetate.

	IMPERIAL	METRIC
Lead Acetate	5 ounces	100 grammes
Lead Oxide, in powder	3½ ounces	70 grammes
Glycerin	1 pint	400 cubic centimetres
Distilled Water	12 fl. ounces	240 cubic centimetres

Mix; boil for a quarter of an hour; filter; evaporate at a temperature not exceeding 222° F. (105·5° C.) until the product weighs thirty-two and three-quarter ounces (or six hundred and fifty-five grammes), and has a specific gravity of 1·48.

GLYCERINUM TRAGACANTHÆ.

Glycerin of Tragacanth.

	IMPERIAL	METRIC
Tragacanth, in powder	½ ounce	10 grammes
Glycerin	1½ fl. ounces	30 cubic centimetres
Distilled Water	½ fl. ounce	10 cubic centimetres

Mix the Glycerin with the Tragacanth; add the Distilled Water; triturate until a homogeneous paste is produced.

GLYCYRRHIZÆ RADIX.

Liquorice Root.

The peeled root and peeled subterranean stem of Glycyrrhiza glabra, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 74], and other species.

Characters.—In long nearly cylindrical pieces; before being peeled, dark brown in colour and longitudinally wrinkled but not scaly; when peeled, yellow, with a nearly smooth fibrous surface. The fracture is coarsely fibrous. A transverse section exhibits a porous distinctly radiate yellow wood, and a thick cortex, with groups of bast fibres arranged in radial lines. It has a faint odour and a characteristic sweet taste free from bitterness.

GOSSYPIUM.

Cotton.

Synonym.—Cotton Wool.

The hairs of the seed of Gossypium barbadense, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. i. plate 37], and of other species of Gossypium, freed from fatty matter.

Characters and Tests.—In long white soft filaments, each consisting of an elongated cell, appearing, when seen under the microscope, as a flattened twisted band with slightly thickened rounded edges; inodorous and tasteless. It should readily be wetted by *water*, to which it should not impart either an alkaline or an acid reaction. On incineration in air it burns, leaving less than 1 per cent. of ash. It dissolves in concentrated *solution of copper ammonio-sulphate.*

GRANATI CORTEX.

Pomegranate Bark.

The dried bark of the stem and root of Punica Granatum, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 113].

Characters.—Usually in irregular curved or channelled pieces varying from two to four inches (half to one decimetre) in length, and from half an inch to one inch (twelve to twenty-five millimetres) in width. The outer surface of the root-bark is rough, yellowish-grey, and marked with irregular conchoidal depressions, the stem-bark being smoother and frequently bearing minute lichens; the inner surface is yellow, more or less tinged with brown. The fracture is short, the fractured surface pale in colour. The transverse section exhibits numerous fine radial and tangential lines. The bark has an astringent, very slightly bitter taste, but no odour.

GUAIACI LIGNUM.

Guaiacum Wood.

The heart-wood of Guaiacum officinale, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. i. plate 41], or of Guaiacum sanctum, *Linn.* [*Sargent, Silva,* vol. i. plate 28].

Characters and Tests.—Guaiacum Wood is dark greenish-brown in colour, dense, hard, and heavier than water. Its taste when chewed is acrid, and when heated its odour is somewhat aromatic. The alcoholic tincture assumes a blue colour on the addition of diluted *test-solution of ferric chloride.*

GUAIACI RESINA.

Guaiacum Resin.

The resin obtained from the stem of Guaiacum officinale, *Linn.*, or of Guaiacum sanctum, *Linn.*

Characters and Tests.—Usually in large masses but sometimes in more or less rounded tears. It is brittle, breaking with a clean glassy fracture; thin splinters are transparent, and vary in colour from yellowish-green to reddish-brown. The powder is greyish, but by exposure to light and air becomes green. When warmed the odour is somewhat balsamic, the taste slightly acrid. A solution in *alcohol* (90 per cent.) assumes a blue colour on the addition of diluted *test-solution of ferric chloride.*

Dose.—5 to 15 grains.

HÆMATOXYLI LIGNUM.

Logwood.

The heart-wood of Hæmatoxylon campechianum, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 86].

Characters.—The wood is hard, heavy, dull orange to purplish-red externally, and internally reddish-brown. The chips or coarse powder, which should be unfermented, have a slight and somewhat agreeable odour, and a sweetish astringent taste. When chewed it colours the saliva pink.

HAMAMELIDIS CORTEX.

Hamamelis Bark.

Synonym.—Witch Hazel Bark.

The dried bark of Hamamelis virginiana, *Linn.* [*Bot. Mag.* plate 6684].

Characters.—Usually in curved pieces about one-sixteenth of an inch (one and a half millimetres) thick, and varying from two to eight inches (one-half to two decimetres) in length, sometimes covered with a silvery-grey or dark-grey scaly cork marked with transverse lenticels, but frequently freed from the cork, and then exhibiting a nearly smooth reddish-brown outer surface. The inner surface is pale reddish-pink in colour, and finely striated longitudinally; the fracture is laminated and coarsely fibrous. The Bark has an astringent taste, but no marked odour. The transverse section exhibits a complete ring of sclerenchymatous cells and numerous tangentially elongated groups of bast fibres.

HAMAMELIDIS FOLIA.

Hamamelis Leaves.

Synonym.—Witch Hazel Leaves.

The leaves, fresh and dried, of Hamamelis virginiana, *Linn.*

Characters.—Broadly oval in outline, usually varying in length from three to six inches (seven to fifteen centimetres). The upper surface is dark green or brownish-green in colour, the under surface paler; the apex is obtuse, the margin sinuate. The Leaves are narrowed towards the base, oblique, slightly cordate and shortly petiolate. They are pinnately veined, the veins being prominent on the under surface, where they are furnished with stellate hairs. They have an astringent, slightly bitter taste, but no marked odour.

HEMIDESMI RADIX.

Hemidesmus Root.

The dried root of Hemidesmus indicus, *R. Br.* [*Bentl. and Trim. Med. Pl.* vol. iii. plate 174].

Characters.—The root is long, rigid, nearly cylindrical, tortuous, and longitudinally furrowed. It seldom exceeds one quarter of an inch (six millimetres) in thickness, and is of a reddish-brown or dark-brown colour. On one side of the root the cork is frequently separated from and raised above the cortex, and is transversely fissured. The transverse section exhibits numerous laticiferous cells in the cortex. The Root has a fragrant odour and a somewhat sweet taste.

HIRUDO.

Leeches.

1. Sanguisuga medicinalis, *Savigny*, the Speckled Leech [*Brandt and Ratzeburg, Med. Zool.* vol. ii. tab. xxviii. fig. 34]; and 2. Sanguisuga officinalis, *Savigny*, the Green Leech [*Brandt and Ratzeburg, Med. Zool.* vol. ii. tab. xxx. fig. 1].

Characters.—Body soft, smooth, two inches (five centimetres) or more in length, tapering to each extremity, plano-convex, marked with from ninety to one hundred fine annulations; back olive-green with six rusty-red longitudinal stripes. The anterior end is terminated by a small sucker surrounding the tri-radiate jaws, and the posterior end by a large sucker. 1. Ventral surface greenish-yellow, spotted with black; 2. Ventral surface olive-green, not spotted.

HOMATROPINÆ HYDROBROMIDUM.

Homatropine Hydrobromide.

Hydrobromate of Homatropine, Brit. Pharm. Add. 1890.

The hydrobromide, $C_{16}H_{21}NO_3,HBr$, of an alkaloid prepared from tropine.

Characters and Tests.—A white crystalline powder or aggregation of minute trimetric crystals, soluble in 6 parts of cold *water*, and in 133 parts of *absolute alcohol*. The solutions should be neutral to *litmus*. A dilute aqueous solution, when applied to the eye, powerfully dilates the pupil. Heated on platinum foil it fuses and burns without leaving an appreciable residue. If 0·2 cubic centimetre of *chloroform* be shaken with 1 cubic centimetre of a 10 per cent. aqueous solution, to which *solution of chlorine* has been cautiously added, the *chloroform* will assume a brownish colour. A 2 per cent. aqueous solution yields no precipitate on the cautious addition of *solution of ammonia* previously diluted with twice its volume of *water*, but dilute *solution of potassium hydroxide* produces in it a white precipitate, soluble in excess of the reagent. *Solution of iodine* causes a brown and *test-solution of mercuric chloride* a white precipitate. If about 0·01 gramme be dissolved in a little *water* and the solution rendered alkaline with *solution of ammonia* and shaken with *chloroform*, the separated *chloroform* will leave on evaporation a residue which will turn yellow, and finally brick-red, when warmed with about 1·5 cubic centimetres of a 2 per cent. solution of *mercuric chloride* in a mixture of five volumes of *alcohol* (90 per cent.) and three volumes of *water*. When treated with *fuming nitric acid* and *potassium hydroxide*, as described under 'Atropina,' no reddish-violet coloration is developed (distinction from atropine), the residue becoming reddish-yellow. It affords the reactions characteristic of hydrobromides.

Dose.—$\frac{1}{80}$ to $\frac{1}{20}$ grain.

HYDRARGYRI IODIDUM RUBRUM.

Mercuric Iodide.

Synonym.—Biniodide of Mercury.

Precipitated Mercuric Iodide, HgI_2, formed by the interaction of mercuric chloride and potassium iodide.

Characters and Tests.—A crystalline powder of a vermilion colour, becoming yellow when a film of it spread on a sheet of paper is gently heated over a lamp. It is almost insoluble in *water*, dissolves sparingly in *alcohol* (90 per cent.), but freely and entirely in *ether* (absence of mercurous iodide), or in *solution of potassium iodide*. It affords the reactions characteristic of mercuric compounds and of iodides. It volatilises at a temperature under redness, leaving not more than a trace of fixed matter. When heated with excess of *copper* it should yield 43·5 to 44 per cent. of metallic mercury.

Dose.—$\frac{1}{32}$ to $\frac{1}{16}$ grain.

HYDRARGYRI OLEAS.

Mercuric Oleate.

Precipitated Mercuric Oleate, formed by the interaction of mercuric chloride and sodium oleate.

	IMPERIAL	METRIC
Mercuric Chloride .	1 ounce .	32 grammes
Hard Soap, powdered .	2 ounces .	64 grammes
Oleic Acid . . .	1 fl. dr. .	4 cubic centimetres
Distilled Water, boiling .	a sufficient quantity	

Dissolve the Mercuric Chloride in ten fluid ounces (or three hundred and twenty cubic centimetres) of the Distilled Water. Triturate the Oleic Acid with the Hard Soap, and dissolve the product in eleven fluid ounces (or three hundred and fifty-two cubic centimetres) of the Distilled Water. Mix the solutions; boil for ten minutes; set aside for the mercuric oleate to deposit; decant the supernatant liquid; wash the precipitated oleate with hot Distilled Water until the decanted liquid affords little or no reaction for chloride, and then dry it on a water-bath.

Characters.—A substance of unctuous consistence, having a light greyish-yellow colour, liable to darken by keeping. It has a somewhat saponaceous odour.

HYDRARGYRI OXIDUM FLAVUM.

Yellow Mercuric Oxide.

Precipitated Mercuric Oxide, HgO, obtained by the interaction of mercuric chloride and sodium hydroxide.

Characters and Tests.—A yellow powder yielding nothing to *water*, but being readily dissolved by *hydrochloric acid*, the solution affording the reactions characteristic of mercuric salts. Gently heated it assumes a red colour. Heated to incipient redness it is resolved into oxygen and the vapour of mercury, leaving only an insignificant amount of fixed residue; the proportion of metallic mercury obtained being 92 to 92·5 per cent.

HYDRARGYRI OXIDUM RUBRUM.

Red Mercuric Oxide.

Red Mercuric Oxide, HgO, is obtained by heating mercurous nitrate until acid vapours cease to be evolved.

Characters and Tests.—Orange-red crystalline scales or powder answering to the tests given under 'Hydrargyri Oxidum Flavum.' When gently heated it becomes dark violet, but resumes its orange-red colour on cooling. When heated in a dry test-tube it should not evolve orange fumes (absence of nitrates).

HYDRARGYRI PERCHLORIDUM.

Mercuric Chloride.

Synonyms.—Bichloride of Mercury; Corrosive Sublimate; Perchloride of Mercury.

A salt, $HgCl_2$, obtained as a sublimate by heating a mixture of mercuric sulphate, sodium chloride, and a little black oxide of manganese.

Characters and Tests.—Heavy colourless masses of prismatic crystals, possessing a highly acrid metallic taste. Soluble in 16 parts of cold and 2 parts of boiling *water*, 3 parts of *alcohol* (90 per cent.), 4 parts of *ether*, and, on trituration, in 2 parts of cold *glycerin*. It affords the reactions characteristic of mercuric salts and of chlorides. When heated it sublimes without decomposition, leaving only a trace of fixed residue. When heated with excess of *lime* it yields 72·8 to 73·8 per cent. of metallic mercury.

Dose.—$\frac{1}{32}$ to $\frac{1}{16}$ grain.

HYDRARGYRI SUBCHLORIDUM.

Mercurous Chloride.

Synonyms.—Calomel; Hydrargyri Chloridum; Subchloride of Mercury.

A salt, Hg_2Cl_2, obtained as a sublimate when a mixture of mercurous sulphate and sodium chloride is heated.

Characters and Tests.—A dull-white heavy and nearly tasteless powder, sometimes rendered yellowish by prolonged trituration; insoluble in *water*, *alcohol* (90 per cent.), or *ether*. It affords the reactions characteristic of mercurous salts and of chlorides. Hydrocyanic acid converts it into mercuric salt and a black powder readily yielding metallic mercury. It volatilises when sufficiently heated, leaving only a trace of fixed residue. Warm *ether* with which it has been shaken leaves, on evaporation, no residue (absence of mercuric chloride). Warmed with *solution of* *potassium hydroxide* it becomes black and does not evolve ammonia (absence of mercuric-ammonium chloride). When heated with excess of *lime* it should yield 84·4 to 84·9 per cent. of metallic mercury.

Dose.—½ to 5 grains.

HYDRARGYRUM.

Mercury.

A metal obtained from native mercuric sulphide.

Characters and Tests.—Silver-white, liquid at ordinary temperatures, and easily divisible into spherical globules. Readily volatilises at a temperature below that of visible redness, leaving only an insignificant amount of fixed residue.

HYDRARGYRUM AMMONIATUM.

Ammoniated Mercury.

Synonyms.—Ammonio-chloride of Mercury; Mercuric-ammonium Chloride; White Precipitate.

NH_2HgCl.

	IMPERIAL	METRIC
Mercuric Chloride	3 ounces	60 grammes
Solution of Ammonia	4 fl. ounces	80 cubic centimetres
Distilled Water	a sufficient quantity	

Dissolve the Mercuric Chloride in three pints (or twelve hundred cubic centimetres) of the Distilled Water with the aid of heat; pour the liquid into the Solution of Ammonia diluted with one pint (or four hundred cubic centimetres) of Distilled Water, constantly stirring; collect the precipitate on a filter; wash it well with cold Distilled Water until the liquid which passes through is free from chloride; dry the product at a temperature not exceeding 212° F. (100° C.).

Characters and Tests.—A white powder on which *water* has but little action, and *alcohol* (90 per cent.) or *ether* no action. Digested with *solution of potassium hydroxide*, it evolves ammonia, acquiring a pale yellow colour, and the liquid, filtered and acidulated with *nitric acid*, gives a white precipitate with *solution of silver nitrate*. Boiled with *solution of stannous chloride* it becomes grey, and yields globules of metallic mercury. It volatilises at a temperature under redness, without fusing, leaving only an insignificant amount of fixed residue. When heated with excess of *lime* it should yield 78 to 79 per cent. of metallic mercury.

HYDRARGYRUM CUM CRETA.

Mercury with Chalk.

Synonym.—Grey Powder.

	IMPERIAL	METRIC
Mercury . . .	1 ounce .	20 grammes
Prepared Chalk . .	2 ounces .	40 grammes

Rub the Mercury and Prepared Chalk in a porcelain mortar until metallic globules cease to be visible to the naked eye, and the mixture acquires a uniform grey colour.

Characters and Tests.—A powder of a light-grey colour; free from grittiness; insoluble in *water*; partly dissolved by *diluted hydrochloric acid*, leaving the mercury in a finely divided state. The solution formed with *hydrochloric acid* does not yield any white or grey precipitate on the addition of *solution of stannous chloride* (absence of mercuric compounds).

Dose.—1 to 5 grains.

HYDRASTIS RHIZOMA.

Hydrastis Rhizome.

The dried rhizome and roots of Hydrastis canadensis, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. i. plate 1].

Characters.—The rhizome is tortuous, simple or branched, from half an inch to an inch and a half (twelve to thirty-eight millimetres) long and from one-eighth of an inch to half an inch (three to twelve millimetres) in thickness. The upper surface bears short ascending branches, which are usually terminated by cup-shaped scars. From the lower surface and sides numerous thin brittle roots are given off.

The rhizome is yellowish-brown, becoming darker by age. It breaks with a clean resinous fracture; the smooth fractured surface is of a brownish-yellow or greenish-yellow colour, and exhibits a ring of bright yellow somewhat distant narrow wood bundles. It has a slight but characteristic odour and a bitter taste.

HYOSCINÆ HYDROBROMIDUM.

Hyoscine Hydrobromide.

Synonyms.—Hydrobromate of Hyoscine;
Scopolamine Hydrobromide.

The hydrobromide, $C_{17}H_{21}NO_4,HBr,3H_2O$, of an alkaloid contained in Hyoscyamus Leaves, different species of Scopola, and possibly other solanaceous plants.

Characters and Tests.—In colourless, transparent rhombic crystals, permanent in the air. It has an acrid, slightly bitter taste, and is odourless. It is soluble in 1 part of cold *water* and in 13 parts of *alcohol* (90 per cent.), very slightly soluble in *ether* or *chloroform*. When heated to 212° F. (100° C.) it loses rather more than 12 per cent. of its weight and fuses to a viscid mass which becomes liquid at a temperature of 379·4° to 381·2° F. (193° to 194° C.). An aqueous solution yields a precipitate with *test-solution of mercuric chloride, solution of iodine,* or *solution of potassium hydroxide,* but not with *solution of ammonia* or *solution of potassium bichromate.* It forms with *auric chloride* a crystalline salt having a melting point of 388·4° F. (198° C.). It affords the reactions characteristic of hydrobromides. Its aqueous solution slightly reddens *litmus.* Heated to redness with access of air it leaves no residue.

Dose.—$\frac{1}{200}$ to $\frac{1}{100}$ grain.

HYOSCYAMI FOLIA.

Hyoscyamus Leaves.

Synonym.—Henbane Leaves.

The fresh leaves and flowers, with the branches to which they are attached, of Hyoscyamus niger, *Linn.*

[*Bentl. and Trim. Med. Pl.* vol. iii. plate 194]; also the leaves and the flowering tops, separated from the branches and carefully dried. Collected from the flowering biennial plants.

Characters.—The leaves vary in length, but seldom exceed ten inches (twenty-five centimetres), and are mostly sessile; they are alternate, exstipulate, triangular-ovate or ovate-oblong, acute, undulated, irregularly toothed, sinuate, or pinnatifid; they have a conspicuous midrib, and are pale green, and furnished with glandular hairs, particularly along the veins and on their under surface. The branches are subcylindrical, and also furnished with glandular hairs. The corolla is yellowish with a network of purplish veins. The mesophyll of the leaf contains small prisms of calcium oxalate. The fresh herb has a strong characteristic odour, a bitter and slightly acrid taste.

HYOSCYAMINÆ SULPHAS.

Hyoscyamine Sulphate.

The sulphate, $(C_{17}H_{23}NO_3)_2,H_2SO_4,2H_2O$, of an alkaloid contained in Hyoscyamus Leaves and possibly other solanaceous plants.

Characters and Tests.—A crystalline powder, deliquescent, odourless, having a bitter acrid taste. Melting point 402·8° F. (206° C.). Soluble in 0·5 part of *water*, 2·5 parts of *alcohol* (90 per cent.), very slightly soluble in *ether* or *chloroform*. It affords the reactions characteristic of sulphates. A solution in *water* acidulated with *hydrochloric acid* yields no precipitate with *solution of platinic chloride*, but affords with *solution of auric chloride* a yellow precipitate soluble in boiling *water* acidulated with *hydrochloric acid*, and again deposited, as the solution cools, in brilliant, golden-yellow scales (distinction from atropine). Heated to redness with access of air it leaves no residue.

Dose.—$\frac{1}{200}$ to $\frac{1}{100}$ grain.

INFUSUM AURANTII.

Infusion of Orange Peel.

	IMPERIAL	METRIC
Dried Bitter-Orange Peel, cut small . . .	1 ounce .	50 grammes
Distilled Water, boiling .	1 pint .	1000 cubic centimetres

Infuse in a covered vessel for fifteen minutes; strain.

Dose.—½ to 1 fluid ounce.

INFUSUM AURANTII COMPOSITUM.

Compound Infusion of Orange Peel.

	IMPERIAL	METRIC
Dried Bitter-Orange Peel, cut small . . .	½ ounce .	25 grammes
Fresh Lemon Peel, cut small	¼ ounce .	12·5 grammes
Cloves, bruised . .	55 grains .	6·25 grammes
Distilled Water, boiling .	1 pint .	1000 cubic centimetres

Infuse in a covered vessel for fifteen minutes; strain.

Dose.—½ to 1 fluid ounce.

INFUSUM BUCHU.

Infusion of Buchu

	IMPERIAL	METRIC
Buchu Leaves, freshly broken . . .	1 ounce .	50 grammes
Distilled Water, boiling	1 pint	1000 cubic centimetres

Infuse in a covered vessel for fifteen minutes; strain.

Dose.—1 to 2 fluid ounces.

INFUSUM CALUMBÆ.

Infusion of Calumba.

	IMPERIAL	METRIC
Calumba Root, thinly sliced	1 ounce	50 grammes
Distilled Water, cold	1 pint	1000 cubic centimetres

Infuse for half an hour; strain.

Dose.—½ to 1 fluid ounce.

INFUSUM CARYOPHYLLI.

Infusion of Cloves.

	IMPERIAL	METRIC
Cloves, bruised	½ ounce	25 grammes
Distilled Water, boiling	1 pint	1000 cubic centimetres

Infuse in a covered vessel for fifteen minutes; strain.

Dose.—½ to 1 fluid ounce.

INFUSUM CASCARILLÆ.

Infusion of Cascarilla.

	IMPERIAL	METRIC
Cascarilla, in No. 10 powder	1 ounce	50 grammes
Distilled Water, boiling	1 pint	1000 cubic centimetres

Infuse in a covered vessel for fifteen minutes; strain.

Dose.—½ to 1 fluid ounce.

INFUSUM CHIRATÆ.

Infusion of Chiretta.

	IMPERIAL	METRIC
Chiretta, cut small	1 ounce	50 grammes
Distilled Water, boiling	1 pint	1000 cubic centimetres

Infuse in a covered vessel for fifteen minutes; strain.

Dose.—½ to 1 fluid ounce.

INFUSUM CINCHONÆ ACIDUM.

Acid Infusion of Cinchona.

	IMPERIAL	METRIC
Red Cinchona Bark, in No. 40 powder	1 ounce	50 grammes
Aromatic Sulphuric Acid	2 fl. drachms	12·5 cubic centimetres
Distilled Water, boiling	1 pint	1000 cubic centimetres

Mix the Red Cinchona Bark with the Distilled Water in a covered vessel; add the Aromatic Sulphuric Acid; infuse for one hour; strain.

Dose.—½ to 1 fluid ounce.

INFUSUM CUSPARIÆ.

Infusion of Cusparia.

Grcs [illegible]

	IMPERIAL	METRIC
Cusparia Bark, in No. 20 powder	1 ounce	50 grammes
Distilled Water, boiling	1 pint	1000 cubic centimetres

Infuse in a covered vessel for fifteen minutes; strain.

Dose.—1 to 2 fluid ounces.

INFUSUM DIGITALIS.

Infusion of Digitalis.

	IMPERIAL	METRIC
Digitalis Leaves, in No. 20 powder	60 grains	6·8 grammes
Distilled Water, boiling	1 pint	1000 cubic centimetres

Infuse in a covered vessel for fifteen minutes; strain.

Dose.—2 to 4 fluid drachms.

INFUSUM ERGOTÆ.

Infusion of Ergot.

	IMPERIAL	METRIC
Ergot, freshly crushed	1 ounce	50 grammes
Distilled Water, boiling	1 pint	1000 cubic centimetres

Infuse in a covered vessel for fifteen minutes; strain.

Dose.—1 to 2 fluid ounces.

INFUSUM GENTIANÆ COMPOSITUM.

Compound Infusion of Gentian.

	IMPERIAL	METRIC
Gentian Root, thinly sliced	¼ ounce	12·5 grammes
Dried Bitter-Orange Peel, cut small	¼ ounce	12·5 grammes
Fresh Lemon Peel, cut small	½ ounce	25 grammes
Distilled Water, boiling	1 pint	1000 cubic centimetres

Infuse in a covered vessel for fifteen minutes; strain.

Dose.—½ to 1 fluid ounce.

INFUSUM KRAMERIÆ.

Infusion of Krameria.

Synonym.—Infusion of Rhatany.

	IMPERIAL	METRIC
Krameria Root, bruised	1 ounce	50 grammes
Distilled Water, boiling	1 pint	1000 cubic centimetres

Infuse in a covered vessel for fifteen minutes; strain.

Dose.—½ to 1 fluid ounce.

INFUSUM LUPULI.

Infusion of Hops.

	IMPERIAL	METRIC
Hops, freshly broken	1 ounce	50 grammes
Distilled Water, boiling	1 pint	1000 cubic centimetres

Infuse in a covered vessel for fifteen minutes; strain.

Dose.—1 to 2 fluid ounces.

INFUSUM QUASSIÆ.

Infusion of Quassia.

	IMPERIAL	METRIC
Quassia Wood, finely rasped	88 grains	10 grammes
Distilled Water, cold	1 pint	1000 cubic centimetres

Infuse in a covered vessel for fifteen minutes; strain.

Dose.—½ to 1 fluid ounce.

INFUSUM RHEI.

Infusion of Rhubarb.

	IMPERIAL	METRIC
Rhubarb Root, in thin slices	1 ounce	50 grammes
Distilled Water, boiling	1 pint	1000 cubic centimetres

Infuse in a covered vessel for fifteen minutes; strain.

Dose.—½ to 1 fluid ounce.

INFUSUM ROSÆ ACIDUM.

Acid Infusion of Roses.

	IMPERIAL	METRIC
Red-Rose Petals, dried and broken	½ ounce	25 grammes
Diluted Sulphuric Acid	2 fl. drachms	12·5 cubic centimetres
Distilled Water, boiling	1 pint	1000 cubic centimetres

Add the Diluted Sulphuric Acid to the Distilled Water; infuse the Red-Rose Petals in the mixture in a covered vessel for fifteen minutes; strain.

Dose.—½ to 1 fluid ounce.

INFUSUM SCOPARII.

Infusion of Broom.

	IMPERIAL	METRIC
Broom Tops, dried and bruised	2 ounces .	100 grammes
Distilled Water, boiling .	1 pint .	1000 cubic centimetres

Infuse in a covered vessel for fifteen minutes; strain.

Dose.—1 to 2 fluid ounces.

This preparation has been introduced in place of the Decoction of Broom of the British Pharmacopœia of 1885.

INFUSUM SENEGÆ.

Infusion of Senega.

	IMPERIAL	METRIC
Senega Root, in No. 10 powder	1 ounce .	50 grammes
Distilled Water, boiling .	1 pint .	1000 cubic centimetres

Infuse in a covered vessel for half an hour; strain.

Dose.—½ to 1 fluid ounce.

INFUSUM SENNÆ.

Infusion of Senna.

	IMPERIAL	METRIC
Senna	2 ounces .	100 grammes
Ginger, sliced . . .	55 grains .	6·25 grammes
Distilled Water, boiling .	1 pint .	1000 cubic centimetres

Infuse in a covered vessel for fifteen minutes; strain.

Dose.—½ to 1 fluid ounce; as a draught, 2 fluid ounces.

INFUSUM SERPENTARIÆ.

Infusion of Serpentary.

	IMPERIAL	METRIC
Serpentary Rhizome, in No. 10 powder	1 ounce	50 grammes
Distilled Water, boiling	1 pint	1000 cubic centimetres.

Infuse in a covered vessel for fifteen minutes; strain.

Dose.—½ to 1 fluid ounce.

INFUSUM UVÆ URSI.

Infusion of Bearberry.

	IMPERIAL	METRIC
Bearberry Leaves, bruised	1 ounce	50 grammes
Distilled Water, boiling	1 pint	1000 cubic centimetres

Infuse in a covered vessel for fifteen minutes; strain.

Dose.—½ to 1 fluid ounce.

INJECTIO APOMORPHINÆ HYPODERMICA.

Hypodermic Injection of Apomorphine.

	IMPERIAL	METRIC
Apomorphine Hydrochloride	1 grain	0·1 gramme
Diluted Hydrochloric Acid	1 minim	0·1 cubic centimetre
Distilled Water	110 minims or a sufficient quantity	10 cubic centimetres

Boil the Distilled Water for a few minutes; cool; add the Diluted Hydrochloric Acid; dissolve the Apomorphine Hydrochloride in the resulting liquid; add, if necessary, sufficient recently boiled and cooled Distilled Water to produce one hundred and ten minims (or ten cubic centimetres) of the Injection.

Dose, by subcutaneous injection.—5 to 10 minims.

This Injection should be recently prepared. 110 minims contain 1 grain of Apomorphine Hydrochloride; 100 cubic centimetres contain 1 gramme.

INJECTIO COCAINÆ HYPODERMICA.

Hypodermic Injection of Cocaine.

	IMPERIAL	METRIC
Cocaine Hydrochloride	33 grains	1 gramme
Salicylic Acid	$\frac{1}{2}$ grain	0·015 gramme
Distilled Water	6 fl. drachms or a sufficient quantity	10 cubic centimetres

Boil the Distilled Water; add the Salicylic Acid; dissolve the Cocaine Hydrochloride in the solution when cool; add, if necessary, sufficient recently boiled and cooled Distilled Water to produce six fluid drachms (or ten cubic centimetres) of the Injection.

Dose, by subcutaneous injection.—2 to 5 minims.

110 minims contain about 10 grains of Cocaine Hydrochloride; 100 cubic centimetres contain 10 grammes.

INJECTIO ERGOTÆ HYPODERMICA.

Hypodermic Injection of Ergot.

Synonym.—Hypodermic Injection of Ergotin.

	IMPERIAL	METRIC
Extract of Ergot	100 grains	10 grammes
Phenol	3 grains	0·3 gramme
Distilled Water	220 minims or a sufficient quantity	20 cubic centimetres

Mix the Phenol with the Distilled Water; boil for a few minutes; cool; add the Extract of Ergot, and, if necessary, sufficient recently boiled and cooled Distilled Water to produce three hundred and thirty minims (or thirty cubic centimetres) of the Injection.

Dose, by subcutaneous injection.—3 to 10 minims.

This Injection should be recently prepared. 110 minims contain about 33 grains of Extract of Ergot; 100 cubic centimetres contain about 33 grammes.

INJECTIO MORPHINÆ HYPODERMICA.

Hypodermic Injection of Morphine.

	IMPERIAL	METRIC
Morphine Tartrate	50 grains	5 grammes
Distilled Water	a sufficient quantity	

Dissolve the Morphine Tartrate in sufficient recently boiled and cooled Distilled Water to produce eleven hundred minims (or one hundred cubic centimetres) of the Injection.

Dose, by subcutaneous injection.—2 to 5 minims.

The morphine strength of this Injection is slightly less than one-half that of the Hypodermic Injection of Morphine of the British Pharmacopœia of 1885. 110 minims contain 5 grains of Morphine Tartrate; 100 cubic centimetres contain 5 grammes.

IODOFORMUM.

Iodoform.

Iodoform, or tri-iodomethane, CHI_3, is a product of the action of iodine on ethylic alcohol in the presence of solution of potassium carbonate.

Characters and Tests.—Shining, lemon-yellow, small hexagonal crystals; somewhat unctuous to the touch; having a persistent and disagreeable odour and taste. Very slightly soluble in cold *water*, soluble in 80 parts of cold or 10 parts of boiling *alcohol* (90 per cent.), in 5 parts of cold *ether*, soluble also in *chloroform*, *carbon bisulphide*, or fixed and volatile oils, and, sparingly, in *benzol*; the solutions do not affect *litmus*. When heated it first melts to a brown liquid, then gives off brown and violet vapours, leaving a black residue which entirely disappears on continued incineration. When warmed with an alcoholic solution of *potassium hydroxide* and the resulting liquid acidulated with *nitric acid*, iodine is liberated, the mixture becoming brown, and, when cold, blue on the addition of *mucilage of starch.* *Water* with which Iodoform has been shaken should be colourless and not bitter (absence of soluble yellow colouring matters, picric acid, &c.) and should not yield any reaction with the tests for iodides.

Dose.—½ to 3 grains.

IODUM.

Iodine.

A solid non-metallic element obtained from the ashes of seaweeds and from native iodides and iodates.

Characters and Tests.—In rhombic prisms or octahedrons of the trimetric system, of a peculiar odour, dark colour, and metallic lustre, which, even when gently heated, yield a violet-coloured vapour; soluble in about 5000 parts of *water*, but freely dissolved by *alcohol* (90 per cent.), *ether*, *chloroform*, or *solution of potassium iodide.* The aqueous solution strikes a deep blue colour with *mucilage of starch.* It sublimes without residue, and the portion that first comes over does not include any slender colourless prisms emitting a pungent odour (absence of iodine cyanide). A solution of Iodine in *chloroform* should be perfectly clear (absence of moisture). Each gramme, dissolved in 50 cubic centimetres of *water* containing 2 grammes of *potassium iodide*, should require for decoloration at least 78·4 cubic centimetres of the *volumetric solution of sodium thiosulphate.*

IPECACUANHÆ RADIX.

Ipecacuanha Root.

The dried root of Psychotria Ipecacuanha, *Stokes* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 145—the long-styled form. *Berg. und Schmidt, Off. Gewächse,* vol. ii. tab. xv^{c}.—the short-styled form].

Characters.—Ipecacuanha occurs in somewhat tortuous pieces not often exceeding six inches (fifteen centimetres) in length, and one quarter of an inch (six millimetres) in thickness. It varies in colour from dark brick-red to very dark brown, and is closely annulated externally, the annulations not taking the form of narrow merging ridges (distinction from Carthagena ipecacuanha). It breaks with a short fracture, the fractured surface exhibiting a thick greyish cortex, which usually has a resinous but sometimes a starchy appearance, and a small dense central portion. When examined under the microscope the cortex exhibits small compound starch grains and raphides; the wood contains no vessels. The odour is slight, the taste bitter.

Dose.—As an expectorant, $\frac{1}{4}$ to 2 grains; as an emetic, 15 to 30 grains.

JABORANDI FOLIA.

Jaborandi Leaves.

The dried leaflets of Pilocarpus Jaborandi, *Holmes* [*Bot. Mag.* plate 7483, and *Pharm. Journ.* ser. 3, vol. v. p. 582].

Characters.—Jaborandi leaflets are dull green in colour, oval-oblong or oblong-lanceolate in outline, and usually vary from two and a half to four inches (six to ten centimetres) in length. They are shortly petiolate, obtuse and emarginate at the apex and, for the most part, unequal at the base; the margin is entire and slightly revolute, the texture coriaceous. The mature leaflets are glabrous, or exhibit at most a few scattered hairs on the under surface; on the upper surface the lateral veinlets are distinctly prominent. The mesophyll contains numerous oil-glands readily visible by transmitted light. They emit when bruised a slight aromatic odour; the taste is at first somewhat bitter and aromatic, becoming afterwards pungent. When chewed they increase the flow of saliva.

JALAPA.

Jalap.

The dried tubercules of Ipomœa Purga, *Hayne* [*Bentl. and Trim. Med. Pl.* vol. iii. plate 186].

Characters and Test.—Dark brown, irregularly oblong, ovoid, napiform or fusiform roots, varying in length from one to three inches (two and a half to seven and a half centimetres) or more, the larger being frequently incised. They are hard, compact, and heavy. Externally they are furrowed and wrinkled, and marked with small transverse scars; internally they vary in colour from yellowish-grey to dingy brown. The transverse section usually exhibits irregular dark concentric lines, and, when examined under the microscope, numerous compound starch grains, clustered crystals of calcium oxalate, and cells containing resin. The odour is characteristic, the taste at first sweet but afterwards acrid and disagreeable. Jalap, when assayed by the process described under 'Jalapæ Resina,' should yield not less than 9 nor more than 11 per cent. of resin having the properties of the official Resin.

Dose.—5 to 20 grains.

JALAPÆ RESINA.
Jalap Resin.

	IMPERIAL	METRIC
Jalap, in No. 40 powder	8 ounces	100 grammes
Alcohol (90 per cent.)	a sufficient quantity	
Distilled Water	a sufficient quantity	

Digest the Jalap with twice its weight of the Alcohol in a covered vessel, heating gently, for twenty-four hours; transfer to a percolator; when the tincture ceases to pass, continue the percolation with successive portions of the Alcohol until nothing more is dissolved; add to the tincture thus produced four fluid ounces (or fifty cubic centimetres) of the Distilled Water; remove the alcohol by distillation; transfer the residue while hot to an open dish; allow it to become cold; pour off the supernatant fluid from the resin; wash this two or three times with hot Distilled Water; dry.

Characters and Tests.—In dark-brown opaque fragments, translucent at the edges, brittle, breaking with a resinous fracture, readily reduced to a pale-brown powder, sweetish in odour, acrid to the throat, easily soluble in *alcohol* (90 per cent.), insoluble in *oil of turpentine*. The powder yields little or nothing to warm *water*, and not more than 10 per cent. to *ether* indicating absence of scammony resin and resin of Tampico jalap). A solution in *alcohol* (90 per cent.) is not coloured bluish-green by *test-solution of ferric chloride* (absence of guaiacum resin).

Dose.—2 to 5 grains.

KAOLINUM.

Kaolin.

A native aluminium silicate, powdered, and freed from gritty particles by elutriation.

Characters and Tests.—A soft whitish powder insoluble in *water* or in diluted acids. The product of its fusion with alkalis, digested in *water*, and neutralised with *hydrochloric acid*, affords the reactions characteristic of aluminium, a gelatinous precipitate of silica being formed.

KINO.

Kino.

The juice obtained from incisions in the trunk of Pterocarpus Marsupium, *Roxb.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 81], evaporated to dryness.

Characters and Tests.—In small angular glistening opaque reddish-black brittle fragments, which in thin laminæ and at the edges are transparent and ruby-red; inodorous; very astringent, and when chewed tinges the saliva red. Partially soluble in cold *water*; almost entirely soluble in *alcohol* (90 per cent.). Yields little or nothing to *ether*. Not less than 80 per cent. should be soluble in boiling *water*.

Dose, in powder.—5 to 20 grains.

KRAMERIÆ RADIX.

Krameria Root.

Synonym.—Rhatany Root.

The dried root of (1) Para Rhatany, a species of Krameria, attributed to Krameria argentea, *Mart.* [*Fl. Brasil.* vol. xiii. pt. 3, plate 28]; or of (2) Peruvian Rhatany, Krameria triandra, *Ruiz and Pavon* [*Fl. Peruv.* vol. i. plate 93].

Characters.—1. Para Rhatany occurs in cylindrical pieces, and is characterised by its purplish-brown colour and smooth thick bark, marked at intervals by deep transverse cracks, and adhering firmly to the wood, which is of a pale reddish-brown colour. Fracture short. 2. Peruvian Rhatany is characterised by its dark reddish-brown colour and its yellowish woody axis, from which the bark readily separates. The bark is thinner than that of Para Rhatany, bright reddish-brown internally, and rough and scaly except in the smaller pieces. Fracture splintery.

The barks of both kinds of Rhatany have a strongly astringent taste, and when chewed tinge the saliva red.

LAMELLÆ ATROPINÆ.

Discs of Atropine.

Discs of Gelatin, with some Glycerin, each weighing about $\frac{1}{50}$ grain (1·3 milligrammes), and containing $\frac{1}{5000}$ grain (0·013 milligramme) of Atropine Sulphate.

LAMELLÆ COCAINÆ.

Discs of Cocaine.

Discs of Gelatin, with some Glycerin, each weighing about $\frac{1}{30}$ grain (2·17 milligrammes), and containing $\frac{1}{50}$ grain (1·3 milligrammes) of Cocaine Hydrochloride.

Each Disc is four times the strength of a Disc of Cocaine of the British Pharmacopœia of 1885.

LAMELLÆ HOMATROPINÆ.

Discs of Homatropine.

Discs of Gelatin, with some Glycerin, each weighing about $\frac{1}{50}$ grain (1·3 milligrammes), and containing $\frac{1}{100}$ grain (0·65 milligramme) of Homatropine Hydrobromide.

LAMELLÆ PHYSOSTIGMINÆ.

Discs of Physostigmine.

Discs of Gelatin, with some Glycerin, each weighing about $\frac{1}{50}$ grain (1·3 milligrammes), and containing $\frac{1}{1000}$ grain (0.065 milligramme) of Physostigmine Sulphate.

LAUROCERASI FOLIA.

Cherry-Laurel Leaves.

The fresh leaves of Prunus Laurocerasus, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 98].

Characters.—Thick, coriaceous, on short strong petioles, oblong or somewhat obovate, from five to seven inches (twelve and a half to seventeen centimetres) in length, tapering towards each end, recurved at the apex, distantly but sharply serrate and slightly revolute at the margins, dark green, smooth, and shining above, much paler beneath, and with a prominent midrib, on either side of which, near the base, are one or two glandular depressions. Inodorous, but emitting when bruised an odour resembling that of bitter almonds.

LIMONIS CORTEX.

Lemon Peel.

The fresh outer part of the pericarp of the fruit of Citrus medica, *Linn.*, var. β Limonum, *Hook. f.* [*Bentl. and Trim. Med. Pl.* vol. i. plate 54].

Characters.—Pale yellow and more or less rough on the outer surface from the presence of glands containing volatile oil, which are embedded in the tissue beneath. On its inner surface there should be only a small amount of the white spongy portion of the rind. Odour strong, characteristic, and fragrant; taste warm, aromatic, and bitter.

LINIMENTUM ACONITI.

Liniment of Aconite.

	IMPERIAL	METRIC
Aconite Root, in No. 40 powder	20 ounces	500 grammes
Camphor	1 ounce	25 grammes
Alcohol (90 per cent.)	a sufficient quantity	

Mix the powdered Aconite Root with twenty fluid ounces (or five hundred cubic centimetres) of the Alcohol; set aside in a closed vessel for three days, agitating occasionally; transfer to a percolator; when the liquid ceases to pass, continue the percolation with more of the Alcohol, allowing the liquid to drop into a receiver containing the Camphor, until thirty fluid ounces (or seven hundred and fifty cubic centimetres) of the Liniment are produced.

LINIMENTUM AMMONIÆ.

Liniment of Ammonia.

	IMPERIAL	METRIC
Solution of Ammonia .	1 fl. ounce .	25 cubic centimetres
Almond Oil . . .	1 fl. ounce .	25 cubic centimetres
Olive Oil . . .	2 fl. ounces .	50 cubic centimetres

Shake together.

LINIMENTUM BELLADONNÆ.

Liniment of Belladonna.

	IMPERIAL	METRIC
Liquid Extract of Belladonna .	10 fl. ounces .	250 cubic centimetres
Camphor . . .	1 ounce . .	25 grammes
Distilled Water . .	2 fl. ounces .	50 cubic centimetres
Alcohol (90 per cent.) .	a sufficient quantity	

Dissolve the Camphor in six fluid ounces (or one hundred and fifty cubic centimetres) of the Alcohol; add the Liquid Extract of Belladonna, the Distilled Water, and sufficient of the Alcohol to produce twenty fluid ounces (or five hundred cubic centimetres) of the Liniment. Set aside for twenty-four hours; filter.

LINIMENTUM CALCIS.

Liniment of Lime.

	IMPERIAL	METRIC
Solution of Lime	2 fl. ounces	50 cubic centimetres
Olive Oil	2 fl. ounces	50 cubic centimetres

Shake together.

LINIMENTUM CAMPHORÆ.

Liniment of Camphor.

Synonym.—Camphorated Oil.

	IMPERIAL	METRIC
Camphor, in flowers	1 ounce	20 grammes
Olive Oil	4 fl. ounces	80 cubic centimetres

Dissolve the Camphor in the Olive Oil.

LINIMENTUM CAMPHORÆ AMMONIATUM.

Ammoniated Liniment of Camphor.

Synonym.—Compound Liniment of Camphor.

	IMPERIAL	METRIC
Camphor	2½ ounces	50 grammes
Oil of Lavender	1 fl. drachm	2·5 cubic centimetres
Strong Solution of Ammonia	5 fl. ounces	100 cubic centimetres
Alcohol (90 per cent.)	a sufficient quantity	

Dissolve the Camphor and Oil of Lavender in twelve fluid ounces (or two hundred and forty cubic centimetres) of the Alcohol; add the Strong Solution of Ammonia gradually, shaking them together until, after adding sufficient of the Alcohol to produce twenty fluid ounces (or four hundred cubic centimetres) of the Liniment, a clear solution is formed.

LINIMENTUM CHLOROFORMI.

Liniment of Chloroform.

	IMPERIAL	METRIC
Chloroform	2 fl. ounces	50 cubic centimetres
Liniment of Camphor	2 fl. ounces	50 cubic centimetres

Mix.

LINIMENTUM CROTONIS.

Liniment of Croton Oil.

	IMPERIAL	METRIC
Croton Oil	1 fl. ounce	20 cubic centimetres
Oil of Cajuput	3½ fl. ounces	70 cubic centimetres
Alcohol (90 per cent.)	3½ fl. ounces	70 cubic centimetres

Mix.

LINIMENTUM HYDRARGYRI.

Liniment of Mercury.

	IMPERIAL	METRIC
Ointment of Mercury	1 ounce	30 grammes
Strong Solution of Ammonia	160 minims	10 cubic centimetres
Liniment of Camphor	a sufficient quantity.	

Add the Strong Solution of Ammonia to sufficient of the Liniment of Camphor to produce one fluid ounce and a half (or forty-five cubic centimetres); triturate the Ointment of Mercury with sufficient of the Liniment of Camphor to produce one fluid ounce and a half (or forty-five cubic centimetres); mix the two liquids.

LINIMENTUM OPII.

Liniment of Opium.

	IMPERIAL	METRIC
Tincture of Opium	2 fl. ounces	50 cubic centimetres
Liniment of Soap	2 fl. ounces	50 cubic centimetres

Mix; set aside for a few days; filter.

LINIMENTUM POTASSII IODIDI CUM SAPONE.

Liniment of Potassium Iodide with Soap.

	IMPERIAL	METRIC
Curd Soap, recently prepared and in shavings	2 ounces	40 grammes
Potassium Iodide	1½ ounces	30 grammes
Glycerin	1 fl. ounce	20 cubic centimetres
Oil of Lemon	1 fl. drachm	2·5 cubic centimetres
Distilled Water	10 fl. ounces	200 cubic centimetres

Reduce the Curd Soap to fine shreds; mix it with the Distilled Water and Glycerin in a porcelain dish on a water-bath; when the Soap is dissolved, pour the liquid into a mortar in which the Potassium Iodide has previously been powdered; mix briskly by trituration; continue the trituration until the mixture is cold; set aside for an hour; then rub well the Oil of Lemon into the cream-like product.

LINIMENTUM SAPONIS.

Liniment of Soap.

	IMPERIAL	METRIC
Soft Soap	2 ounces	40 grammes
Camphor	1 ounce	20 grammes
Oil of Rosemary	3 fl. drachms	7·5 cubic centimetres
Alcohol (90 per cent.)	16 fl. ounces	320 cubic centimetres
Distilled Water	4 fl. ounces	80 cubic centimetres

Dissolve the Soap in the Distilled Water; dissolve the Camphor and Oil of Rosemary in the Alcohol; mix the solutions; set aside for one week; filter.

LINIMENTUM SINAPIS.
Liniment of Mustard.

	IMPERIAL	METRIC
Volatile Oil of Mustard	1½ fl. drachms	2 cubic centimetres
Camphor . . .	120 grains .	3 grammes
Castor Oil . . .	5 fl. drachms	7 cubic centimetres
Alcohol (90 per cent.)	4 fl. ounces .	43 cubic centimetres

Dissolve the Camphor in the Alcohol; add the Oil of Mustard and Castor Oil; mix.

LINIMENTUM TEREBINTHINÆ.
Liniment of Turpentine.

	IMPERIAL	METRIC
Soft Soap . .	1½ ounces .	37·5 grammes
Distilled Water .	5 fl. ounces .	125 cubic centimetres or a sufficient quantity
Camphor . .	1 ounce .	25 grammes
Oil of Turpentine .	13 fl. ounces .	325 cubic centimetres

Mix the Soft Soap with two fluid ounces (or fifty cubic centimetres) of the Distilled Water; dissolve the Camphor in the Oil of Turpentine; gradually add the latter solution to the former, triturating until the mixture becomes a thick creamy emulsion; lastly mix with sufficient Distilled Water to produce one pint (or five hundred cubic centimetres).

LINIMENTUM TEREBINTHINÆ ACETICUM.
Liniment of Turpentine and Acetic Acid.

	IMPERIAL	METRIC
Oil of Turpentine . .	4 fl. ounces	100 cubic centimetres
Glacial Acetic Acid .	1 ounce .	25 grammes
Liniment of Camphor .	4 fl. ounces .	100 cubic centimetres

Mix.

LINUM.

Linseed.

[illegible]

The dried ripe seeds of Linum usitatissimum, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. i. plate 39].

Characters.—Small, brown, glossy, nearly flat seeds varying in length from about one-sixth to one-fourth of an inch (four to six millimetres). They are ovate in outline and somewhat obliquely pointed; the surface is glabrous and minutely pitted. Internally they are yellowish-white and contain a narrow oily endosperm and two large oily cotyledons. They are inodorous, but have a mucilaginous oily taste.

LINUM CONTUSUM.

Crushed Linseed.

[illegible]

Linseed reduced to a coarse powder.

Characters and Tests.—It should be recently prepared, and have a bland, not pungent or rancid, odour when mixed with warm *water*. It should yield not less than 30 per cent. of oil when exhausted by *carbon bisulphide*, and should not yield the characteristic reactions with the tests for starch; when incinerated with free access of air it should leave not more than 5 per cent. of ash.

[illegible]

LIQUOR ACIDI CHROMICI.

Solution of Chromic Acid.

An aqueous solution containing the equivalent of 25 per cent. of Chromic Anhydride, CrO_3; or 29·5 per cent. of chromic acid regarded as H_2CrO_4.

	IMPERIAL	METRIC
Chromic Anhydride	1 ounce	25 grammes
Distilled Water	3 fl. ounces	75 cubic centimetres

Dissolve.

Characters and Tests.—An orange-red, inodorous, caustic, strongly acid liquid. Specific gravity 1·185. It should respond to the tests described under 'Acidum Chromicum.'

LIQUOR AMMONIÆ.

Solution of Ammonia.

An aqueous solution containing 10 per cent. by weight of ammonia, NH_3.

	IMPERIAL	METRIC
Strong Solution of Ammonia .	1 pint .	. 500 cubic centimetres
Distilled Water .	2 pints	. 1000 cubic centimetres

Mix.

Characters and Tests.—Specific gravity 0·959. Each gramme should require for neutralisation 5·9 cubic centimetres of the *volumetric solution of sulphuric acid.* It should respond, qualitatively, to the characters and tests described under 'Liquor Ammoniæ Fortis.'

LIQUOR AMMONIÆ FORTIS.

Strong Solution of Ammonia.

An aqueous solution containing 32·5 per cent. by weight of ammonia, NH_3. It may be obtained by heating a mixture of ammonium chloride and slaked lime, and passing the resulting ammonia into distilled water.

Characters and Tests.—A colourless liquid, with a characteristic, very pungent odour. It is very strongly alkaline. When mixed with an equal volume of *water*, with the addition of a slight excess of *hydrochloric acid*, no colour or odour should be developed (absence of tarry matters). It should not yield any characteristic reaction with the tests for arsenium, lead, iron, aluminium, zinc, calcium, magnesium, potassium, sodium, carbonates, sulphates, or sulphides, and only the slightest reactions with the tests for chlorides. Specific gravity 0·891. Each gramme should require for neutralisation 19·1 cubic centimetres of the *volumetric solution of sulphuric acid.*

LIQUOR AMMONII ACETATIS.

Solution of Ammonium Acetate.

	IMPERIAL	METRIC
Ammonium Carbonate	1 ounce	50 grammes
Acetic Acid Distilled Water	of each a sufficient quantity	

Dissolve the Ammonium Carbonate in ten times its weight of Distilled Water; neutralise with Acetic Acid; add sufficient Distilled Water to produce one pint (or one thousand cubic centimetres) of the Solution.

Test.—A little of the Solution, heated in a test-tube to expel carbonic anhydride, should be neutral or only slightly acid to *test-papers.*

Dose.—2 to 6 fluid drachms.

Solution of Ammonium Acetate should be preserved in a green glass bottle.

LIQUOR AMMONII CITRATIS.

Solution of Ammonium Citrate.

	IMPERIAL	METRIC
Ammonium Carbonate	$1\frac{3}{4}$ ounces	87·5 grammes
	or a sufficient quantity	
Citric Acid	$2\frac{1}{2}$ ounces	125 grammes
Distilled Water	a sufficient quantity	

Dissolve the Citric Acid in five times its weight of Distilled Water; neutralise with Ammonium Carbonate; add sufficient Distilled Water to produce one pint (or one thousand cubic centimetres) of the Solution.

Test.—A little of the Solution, heated in a test-tube to expel carbonic anhydride, should be neutral or only slightly acid to *test-papers.*

Dose.—2 to 6 fluid drachms.

Solution of Ammonium Citrate should be preserved in a green glass bottle.

LIQUOR ARSENICALIS.

Arsenical Solution.

Synonyms.—Liquor Potassæ Arsenitis; Fowler's Solution.

	IMPERIAL	METRIC
Arsenious Anhydride, in powder	$87\frac{1}{2}$ grains	10 grammes
Potassium Carbonate	$87\frac{1}{2}$ grains	10 grammes
Compound Tincture of Lavender	5 fl. drachms	31·25 cubic centimetres
Distilled Water	a sufficient quantity	

Heat the Arsenious Anhydride and the Potassium Carbonate with ten fluid ounces (or five hundred cubic centimetres) of Distilled Water in a one-pint (or one-litre) flask until a clear solution is obtained; cool; add the Compound Tincture of Lavender and sufficient Distilled Water to produce one pint (or one thousand cubic centimetres) of the Solution.

Characters and Tests.—A reddish liquid, alkaline to *test-papers*, and having the odour of lavender. 25 cubic centimetres, neutralised with *hydrochloric acid*, and diluted with *water*, should discharge the colour of 50·8 to 50·9 cubic centimetres of the *volumetric solution of iodine*, the presence of a slight excess of *sodium bicarbonate* being maintained throughout the operation.

Dose.—2 to 8 minims.

110 minims contain 1 grain of Arsenious Anhydride; 100 cubic centimetres contain 1 gramme.

LIQUOR ARSENICI HYDROCHLORICUS.

Hydrochloric Solution of Arsenic.

	IMPERIAL	METRIC
Arsenious Anhydride, in powder	$87\frac{1}{2}$ grains	10 grammes
Hydrochloric Acid	2 fl. drachms	12·5 cubic centimetres
Distilled Water	a sufficient quantity	

Heat the Arsenious Anhydride and the Hydrochloric Acid with ten fluid ounces (or five hundred cubic centimetres) of Distilled Water in a one-pint (or one-litre) flask until a clear solution is obtained; cool; add sufficient Distilled Water to produce one pint (or one thousand cubic centimetres) of the Solution.

Characters and Tests.—A colourless liquid having an acid reaction. 25 cubic centimetres diluted with *water* should discharge the colour of 50·8 to 50·9 cubic centimetres of the *volumetric solution of iodine*, the presence of a slight excess of *sodium bicarbonate* being maintained throughout the operation.

Dose.—2 to 8 minims.

110 minims contain 1 grain of Arsenious Anhydride; 100 cubic centimetres contain 1 gramme.

LIQUOR ARSENII ET HYDRARGYRI IODIDI.

Solution of Arsenious and Mercuric Iodides.

	IMPERIAL	METRIC
Arsenious Iodide	87½ grains	10 grammes
Mercuric Iodide	87½ grains	10 grammes
Distilled Water	a sufficient quantity	

Triturate the Arsenious Iodide and Mercuric Iodide with three to four fluid ounces (or one hundred and fifty to two hundred cubic centimetres) of the Distilled Water until nearly all is dissolved; pass through a filter; wash the latter with sufficient Distilled Water to produce one pint (or one thousand cubic centimetres) of the Solution.

Characters and Tests.—A clear pale yellow liquid with a metallic taste. It affords the reactions characteristic of mercuric salts, arsenium, and iodides.

Dose.—5 to 20 minims.

110 minims correspond to 1 grain of Arsenious Iodide, AsI_3, and to 1 grain of Mercuric Iodide, HgI_2; 100 cubic centimetres correspond to 1 gramme of each salt.

LIQUOR ATROPINÆ SULPHATIS.

Solution of Atropine Sulphate.

	IMPERIAL	METRIC
Atropine Sulphate	17½ grains	1 gramme
Salicylic Acid	2 grains	0·12 gramme
Distilled Water	4 fl. ounces	100 cubic centimetres
	or a sufficient quantity	

Dissolve the Atropine Sulphate and Salicylic Acid in sufficient recently boiled and cooled Distilled Water to produce four fluid ounces (or one hundred cubic centimetres) of the Solution.

Dose.—½ to 1 minim.

110 minims contain 1 grain of Atropine Sulphate; 100 cubic centimetres contain 1 gramme.

LIQUOR BISMUTHI ET AMMONII CITRATIS.

Solution of Bismuth and Ammonium Citrate.

~~*Synonym.*—Liquor Bismuthi.~~

	IMPERIAL	METRIC
Bismuth Oxynitrate	613 grains	70 grammes
Potassium Citrate	613 grains	70 grammes
Potassium Carbonate	175 grains	20 grammes
Nitric Acid	1 fl. ounce	50 cubic centimetres
Solution of Ammonia Distilled Water	of each a sufficient quantity	

Dissolve the Bismuth Oxynitrate in the Nitric Acid diluted with an equal volume of Distilled Water; add Distilled Water with constant stirring until the liquid is very faintly opalescent; add the Potassium Citrate and Carbonate dissolved in a little Distilled Water; heat the liquid to the boiling-point; cool; separate the precipitate; wash it with Distilled Water until free from nitrates. Gradually add Solution of Ammonia to the moist precipitate until it is just dissolved; dilute with Distilled Water to one pint (or one thousand cubic centimetres); filter.

Characters and Tests.—A colourless solution, with a slightly metallic taste. Specific gravity 1·070. Slightly alkaline to *test-paper*; is freely miscible with *water*; heated with alkalis evolves ammonia, and yields a white precipitate. Evaporated to dryness and the product ignited, a residue with a yellow edge results, which when suitably treated should not yield any reaction characteristic of silver, lead, copper, arsenium, iron, selenium, or tellurium. A mixture of 10 cubic centimetres of the Solution with 40 cubic centimetres of *water*, treated with *hydrogen sulphide* in excess, yields a black precipitate, which, when washed and dried, should weigh at least 0·55 gramme.

Dose.—½ to 1 fluid drachm.

1 fluid drachm contains an amount of bismuth equivalent to about 3 grains, or 1 cubic centimetre the equivalent of 0·05 gramme, of Bismuth Oxide.

LIQUOR CALCIS.

Solution of Lime.

Synonym.—Lime Water.

	IMPERIAL	METRIC
Calcium Hydroxide	2 ounces .	. 50 grammes
Distilled Water .	a sufficient quantity	

Wash the Calcium Hydroxide with Distilled Water until free from chlorides; then shake it with one gallon (or four litres) of Distilled Water in a stoppered green glass bottle for two or three minutes; set aside for twelve hours. The clear Solution may be drawn off with a siphon as it is required for use, and should then be transferred to a green glass bottle.

Tests.—24 cubic centimetres should require for neutralisation 10 cubic centimetres of the *decinormal volumetric solution of sulphuric acid.* It should yield no characteristic reaction with the tests for lead or for chlorides.

Dose.—1 to 4 fluid ounces.

1 fluid ounce contains the equivalent of about ½ grain, or 1000 cubic centimetres rather more than 1 gramme, of Lime, CaO.

LIQUOR CALCIS CHLORINATÆ.
Solution of Chlorinated Lime.

	IMPERIAL	METRIC
Chlorinated Lime	1 pound	500 grammes
Distilled Water	1 gallon	5 litres

Mix; transfer the mixture to a stoppered bottle; set aside for three hours, shaking occasionally; filter through calico. Preserve the filtrate in a stoppered bottle in a cool dark place.

Tests.—Specific gravity about 1·055. Each gramme mixed with 0·5 gramme of *potassium iodide* dissolved in *water*, when acidulated with 1 cubic centimetre of *hydrochloric acid*, gives a brownish-red solution which requires for the discharge of its colour not less than 5·6 cubic centimetres of the *volumetric solution of sodium thiosulphate*, corresponding to 2 per cent. of available chlorine.

The Solution should yield, when fresh, about 3 per cent. of available chlorine.

LIQUOR CALCIS SACCHARATUS.
Saccharated Solution of Lime.

	IMPERIAL	METRIC
Calcium Hydroxide	1 ounce	50 grammes
Refined Sugar, in powder	2 ounces	100 grammes
Distilled Water	1 pint	1000 cubic centimetres

Mix the Calcium Hydroxide with a solution of the Refined Sugar in the Distilled Water. Set aside in a stoppered green glass bottle for a few hours, shaking occasionally; separate the clear Solution with a siphon, avoiding unnecessary exposure to air.

Tests.—Specific gravity 1·055. 10 grammes should require for neutralisation 6·3 cubic centimetres of the *volumetric solution of sulphuric acid.* It should not afford any characteristic reaction with the tests for lead.

Dose.—20 to 60 minims.

This Solution contains nearly 2 per cent. by weight of Lime, CaO, or about 8 grains in 1 fluid ounce.

[illegible]

LIQUOR CALUMBÆ CONCENTRATUS.

Concentrated Solution of Calumba.

	IMPERIAL	METRIC
Calumba Root, in No. 5 powder	10 ounces	500 grammes
Alcohol (90 per cent.)	4½ fl. ounces	225 cubic centimetres
Distilled Water	20 fl. ounces	1,000 cubic centimetres
	or a sufficient quantity	

Macerate the Calumba for twenty-four hours with ten fluid ounces (or five hundred cubic centimetres) of Distilled Water; press strongly; again macerate the residue for twenty-four hours with ten fluid ounces (or five hundred cubic centimetres) of Distilled Water; press strongly. Mix the expressed liquids, and heat for five minutes to 180° F. (82·2° C.). When cold add the Alcohol; set aside; decant or filter, adding sufficient Distilled Water to produce one pint (or one thousand cubic centimetres) of the Concentrated Solution.

Dose.—½ to 1 fluid drachm.

LIQUOR CAOUTCHOUC.

Solution of India-rubber.

	IMPERIAL	METRIC
India-rubber	1 ounce	50 grammes
Benzol	10 fl. ounces	500 cubic centimetres
Carbon Bisulphide	10 fl. ounces	500 cubic centimetres

Cut the India-rubber into fine shreds, and place it in a well-stoppered bottle containing the previously mixed Benzol and Carbon Bisulphide. Set aside in a cool place, and agitate occasionally until solution is effected.

LIQUOR CHIRATÆ CONCENTRATUS.

Concentrated Solution of Chiretta.

	IMPERIAL	METRIC
Chiretta, in No. 40 powder	10 ounces	500 grammes
Alcohol (20 per cent.)	25 fl. ounces or a sufficient quantity	1250 cubic centimetres

Moisten the Chiretta with five fluid ounces (or two hundred and fifty cubic centimetres) of the Alcohol; pack in a closed percolator; set aside for three days; percolate with the remaining Alcohol, added in ten equal portions at intervals of twelve hours; continue percolation with more Alcohol until the product measures one pint (or one thousand cubic centimetres).

Dose.—½ to 1 fluid drachm.

LIQUOR CUSPARIÆ CONCENTRATUS.

Concentrated Solution of Cusparia.

	IMPERIAL	METRIC
Cusparia Bark, in No. 40 powder	10 ounces	500 grammes
Alcohol (20 per cent.)	25 fl. ounces or a sufficient quantity	1250 cubic centimetres

Moisten the Cusparia with five fluid ounces (or two hundred and fifty cubic centimetres) of the Alcohol; pack in a closed percolator; set aside for three days; percolate with the remaining Alcohol, added in ten equal portions at intervals of twelve hours; continue percolation with more Alcohol until the product measures one pint (or one thousand cubic centimetres).

Dose.—½ to 1 fluid drachm.

LIQUOR EPISPASTICUS.

Blistering Liquid.

	IMPERIAL	METRIC
Cantharides, in No. 20 powder .	10 ounces .	500 grammes
Acetic Ether	a sufficient quantity	

Mix the Cantharides with five fluid ounces (or two hundred and fifty cubic centimetres) of Acetic Ether; pack in a percolator; at the expiration of twenty-four hours pour Acetic Ether over the contents of the percolator; allow the solution to pass slowly through until one pint (or one thousand cubic centimetres) of the Liquid is obtained.

This preparation is twice the strength of the Blistering Liquid of the British Pharmacopœia of 1885.

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LIQUOR ETHYL NITRITIS.

Solution of Ethyl Nitrite.

A mixture of ninety-five parts by volume of Absolute Alcohol with five parts by volume of Glycerin, containing when freshly made 3 per cent. by weight, and even when long kept not less than 2½ per cent. by weight of ethyl nitrite. The ethyl nitrite is obtained by the interaction of alcohol (90 per cent.), sodium nitrite, and diluted sulphuric acid, at a low temperature.

Characters and Tests.—A limpid liquid, practically colourless, of characteristic apple-like odour and taste. It is highly inflammable. Specific gravity 0·823 to 0·826. When Solution of Ethyl Nitrite is poured on an acidulated strong solution of *ferrous sulphate* contained in a test-tube, a deep olive-brown coloration is produced at the surface of contact of the two liquids, widening as the tube is gently shaken. The Solution should not effervesce when shaken carefully with *sodium bicarbonate* (absence of acid). 10 cubic centimetres, mixed with 5 cubic centimetres of the *volumetric solution of sodium hydroxide* and 5 cubic centimetres of *water*, should not assume a yellow colour (absence of aldehyde). 1 volume, agitated briskly at intervals during five minutes in a brine-charged nitrometer with 1 volume of *solution of potassium iodide* and 1 volume of *diluted sulphuric acid,* should yield, at the ordinary temperature (60° F. or 15·5° C.) and pressure (30 inches or 760 millimetres of mercury), and when freshly prepared, at least 7·6 volumes of nitric oxide gas; and even after the Solution has been kept for some time, and the vessel containing it has occasionally been opened, it should possess at least five-sixths of the strength just indicated.

Dose.—20 to 60 minims.

Solution of Ethyl Nitrite should be stored in small bottles.

LIQUOR FERRI ACETATIS.

Solution of Ferric Acetate.

	IMPERIAL	METRIC
Solution of Ferric Sulphate . .	. 2½ fl. ounces .	125 cubic centimetres
Solution of Ammonia	4 fl. ounces . or a sufficient quantity	200 cubic centimetres
Glacial Acetic Acid, liquefied . .	. 1½ fl. ounces .	75 cubic centimetres
Distilled Water .	a sufficient quantity	

Mix the Solution of Ammonia with one pint (or one litre) of Distilled Water; gradually add to this the Solution of Ferric Sulphate diluted with one pint (or one litre) of Distilled Water; stir well together, taking care that ammonia is, even finally, in slight excess, as indicated by the odour of the mixture; let the whole stand for two hours, stirring occasionally; transfer it to a calico filter; wash the precipitated ferric hydroxide with Distilled Water until free from sulphates; let it drain; squeeze it to remove superfluous moisture; dissolve it in the Glacial Acetic Acid; make the volume up to one pint (or one litre) with Distilled Water; allow any insoluble matter to subside; pour off the clear Solution.

Characters and Tests.—A red liquid with a sour styptic taste and acetous odour, miscible with *water* and *alcohol*

(90 per cent.) in all proportions. It affords the reactions characteristic of ferric salts and of acetates. It should not yield any characteristic reaction with the tests for lead, copper, arsenium, zinc, calcium, sodium, potassium, ammonium, nitrates, or ferrous salts, and only very slight reactions with the tests for sulphates. Specific gravity 1·031.

Dose.—5 to 15 minims.

LIQUOR FERRI PERCHLORIDI.

Solution of Ferric Chloride.

	IMPERIAL	METRIC
Strong Solution of Ferric Chloride	5 fl. ounces	250 cubic centimetres
Distilled Water	a sufficient quantity	

Mix the Strong Solution of Ferric Chloride with sufficient Distilled Water to produce one pint (or one thousand cubic centimetres) of this Solution of Ferric Chloride.

Specific gravity 1·11.

Dose.—5 to 15 minims.

This Solution and the 'Tincture of Ferric Chloride' contain identical proportions of ferric chloride.

LIQUOR FERRI PERCHLORIDI FORTIS.

Strong Solution of Ferric Chloride.

	IMPERIAL	METRIC
Iron	4 ounces	80 grammes
Hydrochloric Acid	20½ fl. ounces	410 cubic centimetres
Nitric Acid	1½ fl. ounces	30 cubic centimetres
Distilled Water	a sufficient quantity	

Place the Iron in a flask; add a mixture of twelve and a half fluid ounces (or two hundred and fifty cubic centimetres) of Hydrochloric Acid and seven ounces (or one hundred and forty cubic centimetres) of Distilled Water; expose to a moderate temperature until effervescence ceases; then boil; filter from undissolved Iron; rinse the flask and contents with a little Distilled Water; pour the rinsings over the filter; add to the filtrate seven fluid ounces (or one hundred and forty cubic centimetres) of Hydrochloric Acid; mix; pour the solution in a slow continuous stream into the Nitric Acid, chemical action being promoted if necessary by the application of slight heat; evaporate the product until no more nitrous fumes escape and a precipitate begins to form; add one fluid ounce (or twenty cubic centimetres) of Hydrochloric Acid, and sufficient Distilled Water to produce seventeen and a half fluid ounces (or three hundred and fifty cubic centimetres) of the Solution.

Characters and Tests.—An orange-brown solution with a strong styptic taste, miscible with *water* and *alcohol* in all proportions. It affords the reactions characteristic of ferric salts and chlorides, and should not yield any characteristic reaction with the tests for lead, copper, arsenium, zinc, calcium, sodium, potassium, ammonium, nitrates, or ferrous salts. Specific gravity about 1·42. 5 cubic centimetres of it diluted with 80 cubic centimetres of *water* should give, upon the addition of an excess of *solution of ammonia*, a reddish-brown precipitate, which, when well washed and incinerated, weighs 1·6 grammes.

110 minims contain $22\frac{1}{2}$ grains of Iron; 100 cubic centimetres contain 22·5 grammes.

LIQUOR FERRI PERNITRATIS.

Solution of Ferric Nitrate.

	IMPERIAL	METRIC
Iron . . .	1 ounce . .	20 grammes
Nitric Acid .	$4\frac{1}{2}$ fl. ounces .	90 cubic centimetres
Distilled Water . .	a sufficient quantity	

Dilute the Nitric Acid with sixteen ounces (or three hundred and twenty cubic centimetres) of the Distilled Water; introduce the Iron; set aside until the metal is dissolved, taking care to moderate the action, should it become too violent, by the addition of a little more Distilled Water; filter the liquid; add enough Distilled Water to produce thirty fluid ounces (or six hundred cubic centimetres) of the Solution

Characters and Tests.—A clear solution of a reddish-brown colour, distinctly acid and astringent to the taste. It affords the reactions characteristic of ferric salts and of nitrates. It should not yield any characteristic reaction with the tests for lead, copper, arsenium, zinc, calcium, sodium, potassium, ammonium, chlorides, sulphates, or ferrous salts. Specific gravity 1·107. 5 cubic centimetres treated with an excess of *solution of ammonia* should give a precipitate which, when washed, dried, and incinerated, weighs 0·23 gramme.

Dose.—5 to 15 minims.

110 minims contain 3⅓ grains of Iron; 100 cubic centimetres contain 3·3 grammes.

LIQUOR FERRI PERSULPHATIS.

Solution of Ferric Sulphate.

	IMPERIAL	METRIC
Ferrous Sulphate	8 ounces	400 grammes
Sulphuric Acid	6 fl. drachms	37·5 cubic centimetres
Nitric Acid	6 fl. drachms	37·5 cubic centimetres
Distilled Water	a sufficient quantity	

Add the Sulphuric Acid to ten ounces (or five hundred cubic centimetres) of the Distilled Water; dissolve the Ferrous Sulphate in the mixture with the aid of heat; mix the Nitric Acid with two ounces (or one hundred cubic centimetres) of the Distilled Water; add to this diluted acid, warmed, the solution of Ferrous Sulphate; concentrate by boiling, until, by the sudden disengagement of ruddy vapours, the liquid ceases to be black and acquires a red colour. If any ferrous salt remain in the solution, add a few drops of Nitric Acid, and boil again. When the solution is cold, make up the quantity to eleven fluid ounces (or five hundred and fifty cubic centimetres) by the addition, if necessary, of Distilled Water.

Characters and Tests.—A dense solution of a dark-red colour, inodorous and very astringent, miscible in all proportions with *alcohol* and *water*. It affords the reactions characteristic of ferric salts and of sulphates. It should yield no characteristic reaction with the tests for ferrous salts. Specific gravity 1·441. 5 cubic centimetres diluted with 80 cubic centimetres of *water* should give, upon the addition of an excess of *solution of ammonia*, a precipitate which, when well washed and incinerated, weighs 1·04 grammes.

LIQUOR HAMAMELIDIS.

Solution of Hamamelis.

	IMPERIAL	METRIC
Fresh Hamamelis Leaves	50 ounces	1000 grammes
Water	100 fl. ounces	2000 cubic centimetres
Alcohol (90 per cent.)	10 fl. ounces	200 cubic centimetres

Macerate in a still for twenty-four hours; then distil one half.

LIQUOR HYDRARGYRI NITRATIS ACIDUS.

Acid Solution of Mercuric Nitrate.

	IMPERIAL	METRIC
Mercury	4 ounces	120 grammes
Nitric Acid	5 fl. ounces	150 cubic centimetres
Distilled Water	1½ fl. ounces	45 cubic centimetres

Mix the Nitric Acid with the Distilled Water in a flask; dissolve the Mercury in the mixture without the application of heat; then boil gently for fifteen minutes; cool, and preserve the Solution, which should weigh about three times the quantity of the Mercury employed, in a stoppered bottle not exposed to the light.

Characters and Tests.—A colourless and strongly acid liquid, which affords the reactions characteristic of mercuric salts and nitrates. It should not yield any characteristic reaction with the tests for mercurous salts. Specific gravity about 2·0.

LIQUOR HYDRARGYRI PERCHLORIDI.

Solution of Mercuric Chloride.

	IMPERIAL	METRIC
Mercuric Chloride	10 grains	1 gramme
Distilled Water	1 pint	875 cubic centimetres

Dissolve.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

This Solution contains $\frac{1}{16}$ grain of Mercuric Chloride in 1 fluid drachm, or 0·114 gramme in 100 cubic centimetres.

LIQUOR HYDROGENII PEROXIDI.

Solution of Hydrogen Peroxide.

An aqueous solution of hydrogen peroxide, H_2O_2, prepared by the interaction of water, barium peroxide, and a dilute mineral acid, at a temperature below 50° F. (10° C.).

Characters and Tests.—A colourless and odourless liquid. It has a slightly acid taste, and renders the saliva frothy. When heated it is decomposed into water and oxygen. On adding a few drops to 8 or 10 cubic centimetres of *water* containing a drop of *solution of potassium chromate*, 10 drops of *diluted sulphuric acid*, and 2 or 3 cubic centimetres of *ether*, a blue layer will appear between the ethereal and aqueous liquids, and, after agitation, the *ether* will also become blue. 1 volume, treated in a brine-charged nitrometer with 10 or 12 times its bulk of a mixture of 1 volume of *sulphuric acid*, 2 volumes of a five-per-cent. solution of *potassium permanganate*, and 7 volumes of *water*, should afford, at normal temperature and pressure, not less than 18 and not more than 22 volumes of oxygen, indicating a yield of 9 to 11 volumes from the Solution of Hydrogen Peroxide. It should give no characteristic reaction with the tests for barium. Evaporated to dryness on a water-bath, not more than 0·5 per cent. of solid residue should remain.

Dose.—$\frac{1}{2}$ to 2 fluid drachms.

LIQUOR IODI FORTIS.

Strong Solution of Iodine.

Liniment of Iodine, Brit. Pharm. 1885.

	IMPERIAL	METRIC
Iodine	1¼ ounces	50 grammes
Potassium Iodide	¾ ounce	30 grammes
Distilled Water	1¼ fl. ounces	50 cubic centimetres
Alcohol (90 per cent.)	9 fl. ounces	360 cubic centimetres

Dissolve the Potassium Iodide and the Iodine in the Distilled Water in a bottle; add the Alcohol and shake.

LIQUOR KRAMERIÆ CONCENTRATUS.

Concentrated Solution of Krameria.

	IMPERIAL	METRIC
Krameria Root, in No. 40 powder	10 ounces	500 grammes
Alcohol (20 per cent.)	25 fl. ounces	1250 cubic centimetres
	or a sufficient quantity	

Moisten the Krameria with five fluid ounces (or two hundred and fifty cubic centimetres) of the Alcohol; pack in a closed percolator; set aside for three days; percolate with the remaining Alcohol, added in ten equal portions at intervals of twelve hours; continue percolation with more Alcohol until the product measures one pint (or one thousand cubic centimetres).

Dose.—½ to 1 fluid drachm.

LIQUOR MAGNESII CARBONATIS.

Solution of Magnesium Carbonate.

Synonym.—Fluid Magnesia.

	IMPERIAL	METRIC
Magnesium Sulphate	2 ounces	40 grammes
Sodium Carbonate	2½ ounces	50 grammes
Distilled Water	a sufficient quantity	

Dissolve the two salts separately, each in half a pint (or two hundred cubic centimetres) of the Distilled Water; heat the solution of Magnesium Sulphate to the boiling point; add to it the solution of Sodium Carbonate; boil them together until carbonic anhydride ceases to be evolved; collect the precipitated magnesium carbonate on a calico filter; wash it with Distilled Water until the filtrate is free from sulphate. Mix the washed precipitate with a pint (or four hundred cubic centimetres) of Distilled Water; place the mixture in a suitable apparatus; force into it pure washed carbonic anhydride; let the mixture remain in contact with excess of carbonic anhydride, retained under a pressure of about three atmospheres, for twenty-four hours or longer; decant the solution, into which again pass carbonic anhydride. Keep the Solution in bottles of convenient sizes, securely closed to prevent the escape of carbonic anhydride.

Characters and Tests.—Effervesces slightly, or not at all, when the containing vessel is first opened. It should yield no characteristic reaction with the test for sulphates. 20 cubic centimetres evaporated to dryness afford a white residue of pure hydrous magnesium carbonate, which after being calcined weighs between 0·16 and 0·19 gramme. This residue is insoluble in *water*, and when dissolved in dilute acid responds to the tests for magnesium.

Dose.—1 to 2 fluid ounces.

This Solution contains nearly 10 grains of the official Magnesium Carbonate in 1 fluid ounce, or about 2 grammes in 100 cubic centimetres.

LIQUOR MORPHINÆ ACETATIS.

Solution of Morphine Acetate.

	IMPERIAL	METRIC
Morphine Acetate	17½ grains	1 gramme
Diluted Acetic Acid	38 minims	2 cubic centimetres
Alcohol (90 per cent.)	1 fl. ounce	25 cubic centimetres
Distilled Water	a sufficient quantity	

Mix the Alcohol with an equal volume of Distilled Water, adding the Diluted Acetic Acid; dissolve the Morphine Acetate in the mixture; dilute with sufficient Distilled Water to produce four fluid ounces (or one hundred cubic centimetres) of the Solution of Morphine Acetate.

Dose.—10 to 60 minims.

110 minims contain 1 grain of Morphine Acetate; 100 cubic centimetres contain 1 gramme.

LIQUOR MORPHINÆ HYDROCHLORIDI.

Solution of Morphine Hydrochloride.

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~~*Synonym.*—Solution of Hydrochlorate of Morphine.~~

	IMPERIAL	METRIC
Morphine Hydrochloride .	17½ grains .	1 gramme
Diluted Hydrochloric Acid .	38 minims .	2 cubic centimetres
Alcohol (90 per cent.) .	1 fl. ounce .	25 cubic centimetres
Distilled Water .	a sufficient quantity	

Mix the Alcohol with an equal volume of Distilled Water, adding the Diluted Hydrochloric Acid; dissolve the Morphine Hydrochloride in the mixture; dilute with sufficient Distilled Water to produce four fluid ounces (or one hundred cubic centimetres) of the Solution of Morphine Hydrochloride.

Dose.—10 to 60 minims.

110 minims contain 1 grain of Morphine Hydrochloride; 100 cubic centimetres contain 1 gramme.

LIQUOR MORPHINÆ TARTRATIS.

Solution of Morphine Tartrate.

	IMPERIAL	METRIC
Morphine Tartrate .	17½ grains .	1 gramme
Alcohol (90 per cent.) .	1 fl. ounce .	25 cubic centimetres
Distilled Water .	a sufficient quantity	

Mix the Alcohol with an equal volume of Distilled Water; dissolve the Morphine Tartrate in the mixture; add sufficient Distilled Water to produce four fluid ounces (or one hundred cubic centimetres) of the Solution.

Dose.—10 to 60 minims.

110 minims of this Solution contain 1 grain of Morphine Tartrate; 100 cubic centimetres contain 1 gramme.

LIQUOR PANCREATIS.

Pancreatic Solution.

A liquid preparation containing the digestive principles of the fresh pancreas of the pig. The preparation is most active when the animal from which it is obtained has been fed shortly before being killed.

Five ounces (or two hundred and fifty grammes) of the pancreas, freed from fat and external membrane and finely divided by trituration with washed sand or powdered pumice stone, should be digested, in a closed vessel, in twenty fluid ounces (or one thousand cubic centimetres) of Alcohol (20 per cent.) for seven days, and then filtered.

Test.—If 2 cubic centimetres of the Solution, together with 0·2 gramme of *sodium bicarbonate* and 20 cubic centimetres of *water*, be added to 80 cubic centimetres of milk, and the mixture be kept at a temperature of 113° F. (45° C.) for one hour, coagulation should no longer occur on the addition of *nitric acid*.

LIQUOR PICIS CARBONIS.

Solution of Coal Tar.

	IMPERIAL	METRIC
Prepared Coal Tar	4 ounces	200 grammes
Quillaia Bark, in No. 20 powder	2 ounces	100 grammes
Alcohol (90 per cent.)	a sufficient quantity	

Moisten the powdered Quillaia Bark with one fluid ounce (or fifty cubic centimetres) of the Alcohol, and complete the percolation process with the remainder of the Alcohol as for Tinctures, one pint (or one thousand cubic centimetres) being produced. To the resulting percolate add the Prepared

Coal Tar, and digest the mixture at 120° F. (48·9° C.) for two days, occasionally stirring. Cool and decant, or filter.

LIQUOR PLUMBI SUBACETATIS DILUTUS.

Diluted Solution of Lead Subacetate.

Synonyms.—Goulard's Lotion; Goulard Water.

	IMPERIAL	METRIC
Strong Solution of Lead Subacetate	2 fl. drachms .	5 cubic centimetres
Alcohol (90 per cent.) . .	2 fl. drachms .	5 cubic centimetres
Distilled Water . . .	a sufficient quantity	

Mix the Alcohol with nineteen and a half fluid ounces (or three hundred and ninety cubic centimetres) of recently boiled and cooled Distilled Water; add the Strong Solution of Lead Subacetate and shake.

LIQUOR PLUMBI SUBACETATIS FORTIS.

Strong Solution of Lead Subacetate.

Synonym.—Goulard's Extract.

	IMPERIAL	METRIC
Lead Acetate . . .	5 ounces .	250 grammes
Lead Oxide, in powder .	3½ ounces .	175 grammes
Distilled Water . . .	a sufficient quantity	

Boil the Lead Acetate and the Lead Oxide in one pint (or one thousand cubic centimetres) of Distilled Water for half an hour, constantly stirring, and maintaining the volume of the liquid by occasional additions of Distilled Water; filter; when the liquid is cold add sufficient Distilled Water to produce one pint (or one thousand cubic centimetres) of the Strong Solution.

Characters and Tests.—A clear colourless liquid, with alkaline reaction and sweet astringent taste. It becomes turbid by exposure to the air. It forms with *mucilage of gum acacia* an opaque white jelly. It affords the reactions characteristic of lead and of acetates. Specific gravity 1·275.

Each gramme should require for complete precipitation 17 cubic centimetres of the *decinormal volumetric solution of sulphuric acid.*

LIQUOR POTASSÆ.

Solution of Potash.

An aqueous solution containing in 110 minims 6·2 grains, or in 1 fluid ounce 27 grains, of potassium hydroxide, KOH.

Characters and Tests.—A colourless, odourless, and transparent liquid having a nauseous taste. It is strongly alkaline. It should not yield any characteristic reaction with the tests for lead, copper, arsenium, iron, aluminium, calcium, magnesium, sodium, or ammonium, and should be free from more than traces of carbonates, chlorides, or sulphates. Specific gravity 1·058. 9 cubic centimetres should require for neutralisation 10 cubic centimetres of the *volumetric solution of sulphuric acid,* corresponding to 0·557 gramme of potassium hydroxide, KOH, or to 6·19 grammes in 100 cubic centimetres, or to 5·85 grammes in 100 grammes.

Dose.—10 to 30 minims, freely diluted.

Solution of Potash should be preserved in a green glass bottle furnished with an air-tight stopper.

LIQUOR POTASSII PERMANGANATIS.

Solution of Potassium Permanganate.

	IMPERIAL	METRIC
Potassium Permanganate .	87½ grains .	10 grammes
Distilled Water . . .	a sufficient quantity	

Dissolve the Potassium Permanganate in sufficient Distilled Water to produce one pint (or one thousand cubic centimetres) of the Solution.

Dose.—2 to 4 fluid drachms.

110 minims contain 1 grain of Potassium Permanganate; 100 cubic centimetres contain 1 gramme.

LIQUOR QUASSIÆ CONCENTRATUS.

Concentrated Solution of Quassia.

	IMPERIAL	METRIC
Quassia Wood, in No. 40 powder	2 ounces	100 grammes
Alcohol (20 per cent.)	22 fl. ounces	1100 cubic centimetres
	or a sufficient quantity	

Mix the Quassia with two fluid ounces (or one hundred cubic centimetres) of the Alcohol; pack in a closed percolator; set aside for three days; percolate with the remaining Alcohol, added in ten equal portions at intervals of twelve hours; continue percolation with more Alcohol until the product measures one pint (or one thousand cubic centimetres).

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

LIQUOR RHEI CONCENTRATUS.

Concentrated Solution of Rhubarb.

	IMPERIAL	METRIC
Rhubarb Root, in No. 5 Powder	10 ounces	500 grammes
Alcohol (20 per cent.)	25 fl. ounces	1250 cubic centimetres
	or a sufficient quantity	

Moisten the Rhubarb with five fluid ounces (or two hundred and fifty cubic centimetres) of the Alcohol; pack in a closed percolator; set aside for three days; percolate with the remaining Alcohol, added in ten equal portions at intervals of twelve hours; continue percolation with more Alcohol until the product measures one pint (or one thousand cubic centimetres).

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

LIQUOR SARSÆ COMPOSITUS CONCENTRATUS.

Concentrated Compound Solution of Sarsaparilla.

	IMPERIAL	METRIC
Sarsaparilla, cut transversely and bruised . .	20 ounces .	1000 grammes
Sassafras Root, in shavings . .	2 ounces .	100 grammes
Guaiacum Wood, in shavings . .	2 ounces .	100 grammes
Dried Liquorice Root, bruised .	2 ounces .	100 grammes
Mezereon Bark, cut small . . .	1 ounce .	50 grammes
Alcohol (90 per cent.) . . .	4½ fl. ounces	225 cubic centimetres
Distilled Water .	a sufficient quantity	

Infuse the Sarsaparilla in three successive portions of five pints (or five litres) of the Distilled Water, for one hour each, at 160° F. (71·1° C.). Boil the other solid ingredients with Distilled Water until exhausted. Rapidly concentrate the mixed infusion and decoction until, when cold, the liquid measures sixteen fluid ounces (or eight hundred cubic centimetres); add the Alcohol; set aside for at least fourteen days; filter. The product should measure one pint (or one thousand cubic centimetres).

Dose.—2 to 8 fluid drachms.

LIQUOR SENEGÆ CONCENTRATUS.

Concentrated Solution of Senega.

	IMPERIAL	METRIC
Senega Root, in No. 20 Powder . . .	. 10 ounces .	500 grammes
A mixture of two parts of Alcohol (20 per cent.) and one part of Alcohol (45 per cent.) .	25 fl. ounces . or a sufficient quantity	1250 cubic centimetres

Moisten the Senega with four fluid ounces (or two hundred cubic centimetres) of the menstruum; pack in a closed percolator; set aside for three days; percolate with the remaining menstruum, added in ten equal portions at intervals of twelve hours; continue percolation with more menstruum until the product measures one pint (or one thousand cubic centimetres).

Dose.—½ to 1 fluid drachm.

LIQUOR SENNÆ CONCENTRATUS.

Concentrated Solution of Senna.

	IMPERIAL	METRIC
Senna, in No. 5 powder . .	. 20 ounces	. 1000 grammes
Tincture of Ginger	. 2½ fl. ounces	125 cubic centimetres
Alcohol (90 per cent.)	. 2 fl. ounces	. 100 cubic centimetres
Distilled Water . .	a sufficient quantity	

Divide the Senna into three equal portions; slightly moisten one portion with Distilled Water; pack in a percolator; set aside for twenty-four hours; pass Distilled Water through it until five fluid ounces (or two hundred and fifty cubic centimetres) are obtained. Slighty moisten the second portion of Senna with this liquid; pack in a percolator; set aside for twenty-four hours; percolate with the remainder of the liquid obtained from the first portion, and also with an additional five fluid ounces (or two hundred and fifty cubic centimetres) obtained by passing more Distilled Water through the first portion. Repeat the process with the third portion of the Senna, and continue successive percolation through the three portions, until a quantity of sixteen fluid ounces (or eight hundred cubic centimetres) has been collected from the third percolator. Heat the liquid to 180° F. (82·2° C.) for five minutes; cool; add the Alcohol and Tincture of Ginger, previously mixed; set aside for seven days; filter. The product should measure one pint (or one thousand cubic centimetres).

Dose.—½ to 1 fluid drachm.

LIQUOR SERPENTARIÆ CONCENTRATUS.

Concentrated Solution of Serpentary.

	IMPERIAL	METRIC
Serpentary Rhizome, in No. 40 powder	10 ounces	500 grammes
Alcohol (20 per cent.)	25 fl. ounces or a sufficient quantity	1250 cubic centimetres

Moisten the Serpentary with five fluid ounces (or two hundred and fifty cubic centimetres) of the Alcohol; pack in a closed percolator; set aside for three days; percolate with the remaining Alcohol, added in ten equal portions at intervals of twelve hours; continue percolation with more Alcohol until the product measures one pint (or one thousand cubic centimetres).

Dose.—½ to 2 fluid drachms.

LIQUOR SODÆ CHLORINATÆ.

Solution of Chlorinated Soda.

	IMPERIAL	METRIC
Chlorinated Lime	16 ounces	400 grammes
Sodium Carbonate	24 ounces	600 grammes
Distilled Water	1 gallon	4 litres

Dissolve the Sodium Carbonate in one quarter of the Distilled Water; thoroughly triturate the Chlorinated Lime with the remainder of the Distilled Water; mix the two liquids; filter.

Characters and Tests.—A colourless alkaline liquid, with astringent taste and faint odour of chlorine. It decolorises *solution of indigo sulphate.* It is decomposed by *hydrochloric acid,* evolving chlorine. It should yield not more than the slightest reaction with the tests for calcium or for carbonates. Specific gravity 1·054. If 3·5 grammes be added to a solution of 1 gramme of *potassium iodide* in 100 cubic centimetres of *water* acidulated with 3 cubic centimetres of *hydrochloric acid,* a brownish-red colour should be produced, for the discharge of which at least 25 cubic centimetres of the *volumetric solution of sodium thiosulphate* should be required, corresponding to about 2½ per cent. of available chlorine.

Dose.—10 to 20 minims.

Solution of Chlorinated Soda should be preserved in a stoppered bottle in a cool and dark place.

LIQUOR SODII ARSENATIS.

Solution of Sodium Arsenate.

	IMPERIAL	METRIC
Sodium Arsenate, recently rendered anhydrous . . .	. 17½ grains	. 1 gramme
Distilled Water . . .	a sufficient quantity	

Dissolve the anhydrous Sodium Arsenate in sufficient Distilled Water to produce four fluid ounces (or one hundred cubic centimetres) of the Solution of Sodium Arsenate.

Dose.—2 to 8 minims.

110 minims contain 1·77 grains of crystallised sodium arsenate, ($Na_2HAsO_4,7H_2O$,) or the equivalent of 1 grain of the anhydrous salt. 100 cubic centimetres contain 1·77 grammes of the crystallised salt, equivalent to 1 gramme of the anhydrous salt.

LIQUOR SODII ETHYLATIS.

Solution of Sodium Ethylate.

	IMPERIAL	METRIC
Sodium, clean and bright .	22 grains .	1 gramme
Absolute Alcohol . .	1 fl. ounce .	20 cubic centimetres

Cautiously dissolve the Sodium in the Absolute Alcohol contained in a flask, the latter being kept cool by a stream of cold water.

Characters and Tests.—A colourless liquid of syrupy consistence, becoming brown by keeping. Specific gravity 0·867. When slightly heated it boils and gives off alcoholic vapours, leaving a white residue which, on being strongly heated, becomes charred. If the white residue be mixed with *water* and heated, it yields ethylic alcohol, and the solution, on evaporation, leaves a white residue consisting almost wholly of caustic soda.

This Solution should be recently prepared. It contains 18 per cent. of the solid substance, C_2H_5ONa.

LIQUOR STRYCHNINÆ HYDROCHLORIDI.

Solution of Strychnine Hydrochloride.

Solution of Hydrochlorate of Strychnine, Brit. Pharm. 1885.

	IMPERIAL	METRIC
Strychnine Hydrochloride	17½ grains	1 gramme
Alcohol (90 per cent.)	1 fl. ounce	25 cubic centimetres
Distilled Water	a sufficient quantity	

Dissolve the Strychnine Hydrochloride in the Alcohol mixed with sufficient Distilled Water to produce four fluid ounces (or one hundred cubic centimetres) of the Solution of Strychnine Hydrochloride.

Dose.—2 to 8 minims.

110 minims contain 1 grain of Strychnine Hydrochloride; 100 cubic centimetres contain 1 gramme.

LIQUOR THYROIDEI.

Thyroid Solution.

A liquid prepared from the fresh and healthy thyroid gland of the sheep.

Remove the external fat and connective tissue from thyroid glands taken from sheep immediately after killing; cut the glands across, and reject any that contain cysts, are hypertrophied, or are otherwise abnormal. Count the healthy glands that remain; slice them and bruise them thoroughly in a mortar; for each entire gland (consisting of two lobes) add thirty-four minims (or two cubic centimetres) of Glycerin, and thirty-four minims (or two cubic centimetres) of a 0·5 per cent. solution of Phenol in Distilled Water; transfer the mixture, well stirred, to a flask, and close the neck with a plug of Cotton Wool; allow it to stand for twenty-four hours; then strain through linen, with strong pressure; add to the strained liquid sufficient of the 0·5 per cent. solution of Phenol to make one hundred minims (or six cubic centimetres) of the Solution for each gland used.

Characters.—A pinkish turbid liquid, entirely free from any odour of putrescence. It must be freshly prepared, and kept in well-stoppered, sterilised, bottles. 100 minims (or 6 cubic centimetres) represent one entire thyroid gland.

Dose.—5 to 15 minims.

LIQUOR TRINITRINI.

Solution of Trinitrin.

Synonym.—Solution of Nitroglycerin.

	IMPERIAL	METRIC
Trinitroglycerin of commerce	17½ grains .	1 gramme
Alcohol (90 per cent.) . .	a sufficient quantity	

Dissolve the trinitroglycerin in sufficient of the Alcohol to produce four fluid ounces (or one hundred cubic centimetres) of the Solution of Trinitrin.

Characters and Tests.—A clear and colourless liquid, neutral to *test-papers*. Specific gravity 0·840. A mixture of 10 cubic centimetres with an equal volume of *water*, cooled to 60° F. (15·5° C.), remains clear, but the further admixture of 1 cubic centimetre of *water* causes opacity (presence of a due amount of trinitroglycerin). On further diluting with *water* and setting the mixture aside, there is deposited a liquid of oily consistence, one drop of which, absorbed by paper and struck with a hammer on a hard surface, explodes.

Dose.—½ to 2 minims.

110 minims contain 1 grain of trinitroglycerin; 100 cubic centimetres contain 1 gramme.

LIQUOR ZINCI CHLORIDI.

Solution of Zinc Chloride.

	IMPERIAL	METRIC
Granulated Zinc .	1 pound . .	400 grammes
Hydrochloric Acid .	44 fl. ounces .	1100 cubic centimetres
Distilled Water . .	a sufficient quantity	

Mix the Hydrochloric Acid with one pint (or 500 cubic centimetres) of Distilled Water in a porcelain dish; add the Zinc; apply gentle heat until gas is no longer evolved; boil for half an hour, supplying the water lost by evaporation; allow the product to cool. Test a few drops of the resulting liquid for iron and lead.

If either be present, filter the remainder of the product into a bottle, and add *solution of chlorine* by degrees, with frequent agitation, until the liquid acquires a permanent odour of chlorine; add Zinc Carbonate in small quantities at a time, with renewed agitation, until a brown sediment appears and the whole of the iron or lead is thus precipitated; filter the liquid into a basin, and evaporate to the bulk of two pints (or one thousand cubic centimetres).

If no iron or lead be present, filter the cooled product and evaporate it to two pints (or one thousand cubic centimetres).

Characters and Tests.—A colourless liquid of astringent and sweetish taste. Specific gravity 1·530. It should respond to the tests for zinc and for chlorides. It should not yield any characteristic reaction with the tests for lead, copper, cadmium, arsenium, iron, aluminium, calcium, magnesium, or sulphates.

LITHII CARBONAS.

Lithium Carbonate.

Lithium Carbonate, Li_2CO_3, is obtained from native silicates of lithium.

Characters and Tests.—It occurs in white powder or in minute crystalline grains, soluble in about 70 parts of cold *water*, insoluble in *alcohol* (90 per cent.). Its aqueous solution turns *red litmus paper* blue. It is dissolved with effervescence by *hydrochloric acid*; the solution evaporated to dryness leaves a residue, which communicates a crimson colour to flame. This residue redissolved in water yields a precipitate with *solution of sodium phosphate*. 1 gramme of the salt neutralised with *sulphuric acid* and afterwards heated to redness leaves 1·479 grammes of dry lithium sulphate, corresponding to 98·5 per cent. of the pure carbonate. It should yield no characteristic reaction with the tests for lead, copper, arsenium, iron, aluminium, zinc, magnesium, sodium, potassium, ammonium, or chlorides, and only the slightest reactions with the tests for calcium and for sulphates.

Dose.—2 to 5 grains.

LITHII CITRAS.

Lithium Citrate.

Lithium Citrate, $C_3H_4{\cdot}OH{\cdot}(COOLi)_3,4H_2O$, is prepared by saturating citric acid with lithium carbonate.

Characters and Tests.—A white crystalline deliquescent salt, entirely soluble in twice its weight of cold *water*. It yields the reactions characteristic of lithium and of citrates. Heated to redness it blackens, evolving inflammable gases; and the residue, neutralised with *hydrochloric acid*, yields with *alcohol* (90 per cent.) a solution which burns with a crimson flame. 2 grammes of the salt dried at 212° F. (100° C.) should lose about 0·38 gramme; at 240° F. (115·5° C.) an additional 0·13 gramme; and, when burned at a low red heat with free access of air, should leave 0·77 gramme of white residue, corresponding to 98·5 per cent. of the pure citrate. It should be free from the impurities mentioned under 'Lithii Carbonas.'

Dose.—5 to 10 grains.

LITHII CITRAS EFFERVESCENS.

Effervescent Lithium Citrate.

	IMPERIAL	METRIC
Sodium Bicarbonate, in powder	58 ounces	580 grammes
Tartaric Acid, in powder . .	31 ounces	310 grammes
Citric Acid, in powder . .	21 ounces	210 grammes
Lithium Citrate	5 ounces	50 grammes

Mix the Lithium Citrate with the Citric Acid, then add the Tartaric Acid, and, lastly, the Sodium Bicarbonate, triturating thoroughly. Place the whole in a dish or pan of suitable form heated to between 200° and 220° F. (93·3° and 104·4° C.). When the mixture, by the aid of careful manipulation, has assumed a granular character, separate it, by means of suitable sieves, into granules of uniform and convenient size. Dry the granules at a temperature not exceeding 130° F. (54·4° C.). The product should weigh about 100 ounces (or 1000 grammes).

Dose.—60 to 120 grains.

LOBELIA.

Lobelia.

The dried flowering herb of Lobelia inflata, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. iii. plate 162].

Characters.—The stems are angular, channelled, and furnished with narrow wings. They are often of a purplish tint, and bear one-celled hairs and the scars of alternate leaves. The leaves are irregularly toothed and hairy. The capsules are inflated, two-celled, and, when mature, contain minute, oblong, reticulated, brown seeds. The transverse section of the stem exhibits laticiferous vessels in the bast. Odour somewhat irritating; taste at first not marked, but, after chewing, burning and acrid.

LOTIO HYDRARGYRI FLAVA.

Yellow Mercurial Lotion.

Synonym.—Yellow Wash.

	IMPERIAL	METRIC
Mercuric Chloride .	20 grains .	0·46 gramme
Solution of Lime .	10 fl. ounces .	100 cubic centimetres

Mix.

LOTIO HYDRARGYRI NIGRA.

Black Mercurial Lotion.

Synonym.—Black Wash.

	IMPERIAL	METRIC
Mercurous Chloride	30 grains	0·685 gramme
Glycerin	½ fl. ounce	5 cubic centimetres
Mucilage of Tragacanth	1¼ fl. ounces	12·5 cubic centimetres
Solution of Lime	a sufficient quantity	

Triturate the Mercurous Chloride with the Glycerin and Mucilage of Tragacanth; transfer to a bottle; add two fluid ounces (or twenty cubic centimetres) of the Solution of Lime; shake well; add sufficient Solution of Lime to produce ten fluid ounces (or one hundred cubic centimetres) of the Lotion.

LUPULINUM.

Lupulin.

Glands obtained from the strobiles of Humulus Lupulus, *Linn.*

Characters and Tests.—A granular brownish-yellow powder composed of minute glands, each consisting of a single hemispherical layer of cells, the cuticle of which has been raised by the secretion of the oil or oleo-resin contained in the gland. It has a strong hop-like odour and a bitter aromatic taste. It should contain not more than 40 per cent. of matter insoluble in *ether*, and yield not more than 12 per cent. of ash when incinerated.

Dose.—2 to 5 grains.

LUPULUS.

Hops.

Synonym.—Humulus.

The dried strobiles of Humulus Lupulus, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. iv. plate 230]; collected from cultivated plants.

Characters.—The strobiles are about one inch and a quarter (three centimetres) long, oblong-ovoid or rounded in form, and consist of a number of imbricated greenish-yellow membranous stipules and bracts, attached to a hairy zigzag axis. Each of the bracts enfolds at its base a small rounded achene which, like the base of the bract, is sprinkled with yellow glands. The odour is aromatic and characteristic, the taste bitter, aromatic, and somewhat astringent.

MAGNESIA LEVIS.

Light Magnesia.

Synonym.—Light Calcined Magnesia.
Light Magnesium Oxide.

Light Magnesium a ~~Oxide~~, MgO, is prepared by exposing Light Magnesium Carbonate to a dull red heat.

Characters.—A bulky white powder differing from Heavy Magnesia only in its greater lightness, the volumes corresponding to the same weight being to each other in the ratio of three and a half to one.

Dose.—5 to 30 grains, for repeated administration; for a single administration, 30 to 60 grains.

MAGNESIA PONDEROSA.

Heavy Magnesia.

Synonym.—Heavy Calcined Magnesia.
Heavy Magnesium Oxide.

Heavy Magnesium a ~~Oxide~~, MgO, is prepared by exposing Heavy Magnesium Carbonate to a dull red heat.

Characters and Tests.—A white powder, insoluble in *water*, but readily dissolved by acids, the solution affording the reactions characteristic of magnesium. It should yield no characteristic reaction with the tests for iron, aluminium, calcium, or carbonates and only the slightest reactions with the tests for chlorides or sulphates. When heated to dull redness it should lose little or no weight.

Dose.—5 to 30 grains, for repeated administration; for a single administration, 30 to 60 grains.

MAGNESII CARBONAS LEVIS.

Light Magnesium Carbonate.

This preparation, $3(MgCO_3),Mg(HO)_2,4H_2O$, may be obtained by the following process:

	IMPERIAL	METRIC
Magnesium Sulphate	10 ounces	125 grammes
Sodium Carbonate	12 ounces	150 grammes
Distilled Water	a sufficient quantity	

Dissolve the Magnesium Sulphate and the Sodium Carbonate each in half a gallon (or one litre) of cold Distilled Water; mix the two solutions; boil the mixture for fifteen minutes; transfer the precipitate to a calico filter; pour upon it boiling Distilled Water until the washings are free from sulphates; dry at a temperature not exceeding 212° F. (100° C.).

Characters and Tests.—A very light powder, which, when examined under the microscope, is found to consist of amorphous particles with numerous slender prisms intermixed. The other characters and tests are the same as those of Heavy Magnesium Carbonate.

Dose.—5 to 30 grains, for repeated administration; for a single administration, 30 to 60 grains.

MAGNESII CARBONAS PONDEROSUS.

Heavy Magnesium Carbonate.

This preparation, $3(MgCO_3),Mg(HO)_2,4H_2O$, may be obtained by the following process:

	IMPERIAL	METRIC
Magnesium Sulphate	10 ounces	125 grammes
Sodium Carbonate	12 ounces	150 grammes
Distilled Water, boiling	a sufficient quantity	

Dissolve the Magnesium Sulphate and the Sodium Carbonate each in a pint (or two hundred and fifty cubic centimetres) of the Distilled Water; mix the solutions, and evaporate to dryness; digest the residue for half an hour with two pints (or five hundred cubic centimetres) of the Distilled Water, and having collected the insoluble matter on a calico filter, wash it repeatedly with the Distilled Water, until the washings are free from sulphates; dry the product at a temperature not exceeding 212° F. (100° C.).

Characters and Tests.—A white granular powder, which dissolves readily, with effervescence, in the diluted mineral acids, the solutions affording the reactions characteristic of magnesium. 5 grammes calcined at a red heat should be reduced to 2·1 grammes. It should yield no characteristic reaction with the tests for iron, aluminium, or calcium, and only the slightest reactions with the tests for chlorides or sulphates.

Dose.—5 to 30 grains, for repeated administration; for a single administration, 30 to 60 grains.

MAGNESII SULPHAS.

Magnesium Sulphate.

Synonym.—Epsom Salt.

Magnesium Sulphate, $MgSO_4,7H_2O$, may be prepared by the interaction of the native magnesium carbonates and diluted sulphuric acid; or by purifying the native sulphate.

Characters and Tests.—In small, colourless, transparent, rhombic prisms, soluble in 1 part of cold *water*, and possessing a bitter taste. It affords the reactions characteristic of magnesium and of sulphates. 0·5 gramme dissolved in 250 cubic centimetres of *water*, when set aside for twelve hours with a mixture of *solution of ammonia*, *solution of ammonium chloride*, and *solution of sodium phosphate*, yields a precipitate which, when thoroughly washed, dried, and heated to redness, weighs 0·22 gramme. Magnesium Sulphate should yield no characteristic reaction with the tests for iron, aluminium, zinc, calcium, sodium, potassium, ammonium, or nitrates, and only the slightest reactions with the tests for chlorides.

Dose.—30 to 120 grains, for repeated administration; for a single administration, ¼ to ½ an ounce.

MAGNESII SULPHAS EFFERVESCENS.

Effervescent Magnesium Sulphate.

Synonym.—Effervescent Epsom Salt.

	IMPERIAL	METRIC
Magnesium Sulphate, in crystals	50 ounces	500 grammes
Sodium Bicarbonate, in powder	36 ounces	360 grammes
Tartaric Acid, in powder .	19 ounces	190 grammes
Citric Acid, in powder .	12½ ounces	125 grammes
Refined Sugar, in powder .	10½ ounces	105 grammes

Dry the Magnesium Sulphate at about 130° F. (54·4° C.) until it has lost twenty-three per cent. of its weight; powder the product; mix it with the Refined Sugar and then with the other ingredients. Place the mixture in a dish or pan of suitable form heated to between 200° and 220° F. (93·3° and 104·4° C.). When the mixture, by aid of careful manipulation, has assumed a granular character, separate it into granules of uniform and convenient size by means of suitable sieves. Dry the granules at a temperature not exceeding 130° F. (54·4° C.). The product should weigh about 100 ounces (or 1000 grammes).

Dose.—60 to 240 grains, for repeated administration; for a single administration, ½ to 1 ounce.

MEL BORACIS.

Borax Honey.

	IMPERIAL	METRIC
Borax, in fine powder .	1 ounce .	50 grammes
Glycerin . . .	½ ounce .	25 grammes
Clarified Honey . .	8 ounces .	400 grammes

Mix.

MEL DEPURATUM.

Clarified Honey.

Honey of commerce, melted in a water-bath, and strained, while hot, through flannel previously moistened with warm water.

Characters and Tests.—A viscid translucent liquid of a light-yellowish or brownish-yellow colour, gradually becoming partially crystalline and opaque. It has a characteristic odour and very sweet taste. Incinerated it should not yield more than 0·25 per cent. of ash, the solution of which in *water* acidulated with *nitric acid* should not afford more than a slight turbidity with *solution of barium chloride* (absence of more than traces of sulphates). It should yield no characteristic reaction with the iodine test for starch.

MENTHOL.

Menthol.

A crystalline substance, $C_6H_9{\cdot}OH{\cdot}CH_3{\cdot}C_3H_7$, obtained by cooling the oil distilled from the fresh herb of Mentha arvensis, *DC.*, *vars.* piperascens et glabrata, *Holmes*; and of Mentha piperita, *Sm.* [*Bentl. and Trim. Med. Pl.* vol. iii. plate 203].

Characters and Tests.—In colourless acicular crystals usually more or less moist from adhering oil; or in crystalline masses. Melting-point 107·6° F. (42° C.); it should not exceed 109·4° F. (43° C.). It has the odour and flavour of peppermint, producing a sensation of warmth on the tongue, and, if air is inhaled, a sensation of coolness. It is very slightly soluble in *water*, but readily soluble in *alcohol* (90 per cent.), the solutions having a neutral reaction. Boiled with *sulphuric acid* diluted with half its volume of *water*, Menthol acquires an indigo-blue or ultramarine colour, the acid becoming brown. It should be entirely volatilised by the heat of a water-bath.

Dose.—½ to 2 grains.

MEZEREI CORTEX.

Mezereon Bark.

The dried bark of Daphne Mezereum, *Linn.*, or of Daphne Laureola, *Linn.*, or of Daphne Gnidium, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. iii. plates 225, 226, 227].

Characters.—In long thin more or less flattened strips, or in quills of various lengths; flexible, very tough and fibrous. The outer surface varies in colour from olive-brown or reddish-brown to deep purplish-brown; the inner surface is nearly white, and silky. The transverse section exhibits numerous groups of bast fibres in the secondary bast. The Bark readily separates into two layers. It has no marked odour, but an acrid burning taste.

MISTURA AMMONIACI.

Ammoniacum Mixture.

	IMPERIAL	METRIC
Ammoniacum, in coarse powder	¼ ounce .	5 grammes
Syrup of Tolu .	4 fl. drachms	10 cubic centimetres
Distilled Water .	7½ fl. ozs. .	150 cubic centimetres

Triturate the Ammoniacum thoroughly with a little of the Distilled Water so as to form a thin paste; gradually add the remainder of the Distilled Water and the Syrup of Tolu, triturating until the mixture assumes a uniform milky appearance; strain through muslin.

Dose.—½ to 1 fluid ounce.

MISTURA AMYGDALÆ.

Almond Mixture.

	IMPERIAL	METRIC
Compound Powder of Almonds .	2 ounces .	20 grammes
Distilled Water .	16 fl. ounces .	160 cubic centimetres

Triturate the Powder with a little of the Distilled Water so as to form a thin paste; gradually add the remainder of the Distilled Water; strain through fine muslin.

Dose.—½ to 1 fluid ounce.

MISTURA CREOSOTI.

Creosote Mixture.

	IMPERIAL	METRIC
Creosote	16 minims	1 cubic centimetre
Spirit of Juniper	16 minims	1 cubic centimetre
Syrup	1 fl. ounce	30 cubic centimetres
Distilled Water	a sufficient quantity	

Shake the Creosote with fourteen fluid ounces (or four hundred and twenty cubic centimetres) of the Distilled Water; add the Syrup and the Spirit of Juniper, and sufficient Distilled Water to produce sixteen fluid ounces (or four hundred and eighty cubic centimetres) of the Mixture.

Dose.—½ to 1 fluid ounce.

MISTURA CRETÆ.

Chalk Mixture.

	IMPERIAL	METRIC
Prepared Chalk	¼ ounce	5 grammes
Tragacanth, in powder	15 grains	0·7 gramme
Refined Sugar	½ ounce	10 grammes
Cinnamon Water	a sufficient quantity	

Triturate the Prepared Chalk with the Tragacanth and Refined Sugar, and gradually add sufficient Cinnamon Water to produce eight fluid ounces (or one hundred and sixty cubic centimetres) of the Mixture.

Dose.—½ to 1 fluid ounce.

MISTURA FERRI COMPOSITA.

Compound Mixture of Iron.

	IMPERIAL	METRIC
Ferrous Sulphate	25 grains	2·5 grammes
Potassium Carbonate	30 grains	3 grammes
Myrrh	60 grains	6 grammes
Refined Sugar	60 grains	6 grammes
Spirit of Nutmeg	50 minims	4·5 cubic centimetres
Rose Water	10 fl. ounces or a sufficient quantity	437·5 cubic centimetres

Reduce the Myrrh to powder; add the Potassium Carbonate and Refined Sugar; triturate the mixture with a small quantity of the Rose Water so as to form a thin paste; gradually add more Rose Water and the Spirit of Nutmeg; continue the trituration and further addition of Rose Water until seven fluid ounces (or three hundred and six and a quarter cubic centimetres) of liquid result; dissolve the Ferrous Sulphate in three fluid ounces (or one hundred and thirty-one and a quarter cubic centimetres) of the Rose Water; mix the liquids.

Dose.—½ to 1 fluid ounce.

MISTURA GUAIACI.

Guaiacum Mixture.

	IMPERIAL	METRIC
Guaiacum Resin . .	½ ounce .	10 grammes
Refined Sugar . .	½ ounce .	10 grammes
Tragacanth in powder .	35 grains .	1·6 grammes
Cinnamon Water . .	1 pint .	400 cubic centims.

Triturate the Guaiacum Resin with the Refined Sugar and the Tragacanth; add gradually the Cinnamon Water.

Dose.—½ to 1 fluid ounce.

MISTURA OLEI RICINI.

Castor Oil Mixture.

	IMPERIAL	METRIC
Castor Oil . . .	3 fl. ounces .	75 cubic centimetres
Mucilage of Gum Acacia	1½ fl. ounces .	37·5 cubic centimetres
Orange-flower water of commerce, undiluted .	1 fl. ounce .	25 cubic centimetres
Cinnamon Water .	2½ fl. ounces .	62·5 cubic centimetres

Mix the undiluted orange-flower water and the Cinnamon Water; place the Mucilage of Gum Acacia in a mortar and to it add, alternately, in portions, the Castor Oil and the mixed Waters, with constant trituration.

Dose, as a draught.—1 to 2 fluid ounces.

MISTURA SENNÆ COMPOSITA.

Compound Mixture of Senna.

Synonym.—Black Draught.

	IMPERIAL	METRIC
Magnesium Sulphate	5 ounces .	250 grammes
Liquid Extract of Liquorice . .	1 fl. ounce .	50 cubic centimetres
Compound Tincture of Cardamoms .	2 fl. ounces .	100 cubic centimetres
Aromatic Spirit of Ammonia . .	1 fl. ounce .	50 cubic centimetres
Infusion of Senna . .	a sufficient quantity	

Dissolve the Magnesium Sulphate in ten fluid ounces (or five hundred cubic centimetres) of the Infusion of Senna; add the mixed Liquid Extract of Liquorice, Compound Tincture of Cardamoms, and Aromatic Spirit of Ammonia; and enough Infusion of Senna to produce one pint (or one thousand cubic centimetres) of the Compound Mixture.

Dose, as a draught.—1 to 2 fluid ounces.

MISTURA SPIRITUS VINI GALLICI.

Mixture of Brandy.

	IMPERIAL	METRIC
Brandy . . .	4 fl. ounces	113 cubic centimetres
Cinnamon Water .	4 fl. ounces	113 cubic centimetres
Refined Sugar .	½ ounce .	14 grammes
Two yolks of eggs		

Rub the yolks of eggs and Refined Sugar together; add the Cinnamon Water and Brandy; mix.

Dose, as a draught.—1 to 2 fluid ounces.

MORPHINÆ ACETAS.

Morphine Acetate.

The carefully dried salt, $C_{17}H_{19}NO_3,C_2H_4O_2,3H_2O$, obtained by neutralising morphine with acetic acid.

Characters and Tests.—A white crystalline or amorphous powder, almost entirely soluble in 2½ parts of *water* and in about 100 parts of *alcohol* (90 per cent.). It loses acetic acid when exposed to the air. It affords the reactions for morphine mentioned under 'Morphinæ Hydrochloridum,' and the reactions characteristic of acetates. 2 grammes of the salt form with 6 cubic centimetres of warm *morphinated water* a slightly turbid solution, which is rendered clear by the addition of 0·1 cubic centimetre of *acetic acid*; and this solution, when mixed with *solution of ammonia* in slight excess, yields a precipitate which, after washing and drying as described under 'Morphinæ Hydrochloridum,' weighs 1·42 grammes. If the salt yield a larger proportion of morphine than this, it should be recrystallised from hot water acidulated with *acetic acid*. Heated to redness with free access of air, it leaves no residue (absence of mineral impurities).

Dose.—⅛ to ½ grain.

MORPHINÆ HYDROCHLORIDUM.

Morphine Hydrochloride.

Hydrochlorate of Morphine, Brit. Pharm. 1885.

The hydrochloride, $C_{17}H_{19}NO_3,HCl,3H_2O$, of an alkaloid obtained from opium.

Characters and Tests.—Acicular prisms of a silky lustre, or a white powder consisting of minute cubical crystals, unchanged by exposure to the air. Soluble in 24 parts of cold *water*, 1 part of boiling *water*, and in 50 parts of *alcohol*. It should be without action on *litmus*. *Solution of ammonia* causes a white precipitate in the aqueous solution, with difficulty soluble in excess; *solution of potassium hydroxide* a similar precipitate readily soluble in excess. This precipitate yields mere traces to *benzol* (absence of other alkaloids). Moistened with *nitric acid* the salt yields an orange-red coloration; with *test-solution of ferric chloride* a dull greenish-blue coloration. Heated on a water-bath for ten or fifteen minutes with a few drops of *sulphuric acid*, cooled, and treated with a few drops of *diluted nitric acid*, it gives a violet colour rapidly passing to blood-red. It dissolves without coloration in strong *sulphuric acid*; the addition of a small quantity of *sodium arsenate* to a portion of this solution causes a bluish-green coloration, and a small quantity of *bismuth oxynitrate* added to another portion gives a purplish-brown coloration. It affords the reactions characteristic of hydrochlorides. 2 grammes of Morphine Hydrochloride dissolved in 250 cubic centimetres of warm *morphinated water*, with *solution of ammonia* added in the slightest possible excess, will give on cooling a crystalline precipitate which, when washed with a little cold *morphinated water* and dried, should weigh 1·51 grammes. The drying should be accomplished, first by pressing the precipitate between sheets of bibulous paper, then by exposing it to a temperature between 131° and 140° F. (55° and 60° C.), and finally to a temperature of 230° F. (110° C.) for twenty minutes. Heated to redness with free access of air, it burns, leaving no residue (absence of mineral impurities).

Dose.—$\frac{1}{8}$ to $\frac{1}{2}$ grain.

MORPHINÆ TARTRAS.

Morphine Tartrate.

Morphine Tartrate, $(C_{17}H_{19}NO_3)_2C_4H_6O_6,3H_2O$ may be prepared by the combination of morphine and tartaric acid in molecular proportions.

Characters and Tests.—A white powder consisting of fine nodular tufts of minute acicular crystals. Efflorescent at 68° F. (20° C.). Soluble in 11 parts of cold *water*, almost insoluble in *alcohol* (90 per cent.). It affords the reactions characteristic of morphine and of tartrates. 2 grammes dissolved in 20 cubic centimetres of warm *morphinated water*, with *solution of ammonia* added in the slightest possible excess, will give, on cooling, a crystalline precipitate, which, after washing and drying as described under 'Morphinæ Hydrochloridum,' should weigh 1·47 grammes. Heated to redness with free access of air, it burns without leaving any residue (absence of mineral impurities).

Dose.—$\frac{1}{8}$ to $\frac{1}{2}$ grain.

MOSCHUS.

Musk.

The dried secretion from the preputial follicles of Moschus moschiferus, *Linn.* [*Brandt and Ratzeburg, Med. Zool.* vol. i. tab. vii., viii.].

Characters and Test.—In irregular somewhat unctuous grains which have a dark reddish-brown or reddish-black colour, a characteristic penetrating persistent odour, and a somewhat bitter taste. The grains are contained in an oval sac, from about one and a half to two inches (three and a half to five centimetres) in diameter, which is nearly smooth on one side, and covered on the other or outer side by brownish-yellow or greyish appressed bristle-like hairs, concentrically arranged around a nearly central orifice. Musk should be free from earthy impurities, and should on incineration yield not more than 8 per cent. of ash.

Dose.—5 to 10 grains.

MUCILAGO ACACIÆ.

Mucilage of Gum Acacia.

	IMPERIAL	METRIC
Gum Acacia, in small pieces	4 ounces .	100 grammes
Distilled Water . . .	a sufficient quantity	

Rapidly rinse the Gum Acacia with a little Distilled Water; then dissolve it in six fluid ounces (or one hundred and fifty cubic centimetres) of Distilled Water in a closed vessel and strain.

MUCILAGO TRAGACANTHÆ.

Mucilage of Tragacanth.

	IMPERIAL	METRIC
Tragacanth, in powder	60 grains . .	5·5 grammes
Alcohol (90 per cent.) .	2 fl. drachms .	10 cubic centimetres
Distilled Water . .	a sufficient quantity	

Mix the Tragacanth with the Alcohol in a bottle; add a sufficient quantity of Distilled Water to form ten fluid ounces (or four hundred cubic centimetres) and shake immediately.

MYRISTICA.

Nutmeg.

The dried seed of Myristica fragrans, *Houtt.* [*Bentl. and Trim. Med. Pl.* vol. iii. plate 218], divested of its testa.

Characters.—Oval or rounded, varying in length, but rarely exceeding an inch (twenty-five millimetres); greyish-brown externally, and marked with reticulated furrows; internally greyish-red with darker brownish-red veins, so that the transverse section has a marbled appearance. Odour strong and pleasantly aromatic; taste agreeably aromatic, warm, and somewhat bitter.

MYRRHA.

Myrrh.

A gum-resin obtained from the stem of Balsamodendron Myrrha, *Nees* [*Nees, Pl. Med.* plate 357], and probably other species.

Characters and Test.—In rounded or irregular tears, or masses of agglutinated tears, varying very much in size; reddish-brown or reddish-yellow externally, dry, and more or less covered by a fine powder; brittle, the fractured surface irregular, somewhat translucent, of a rich brown colour, oily, and frequently exhibiting whitish marks. Odour agreeable, aromatic. Taste aromatic, bitter, and acrid. When moistened with *nitric acid* it assumes a violet colour (distinction from bdellium and false myrrh).

NAPHTHOL.

Beta-naphthol.

Beta-naphthol, or beta-mono-hydroxy-naphthalene, $C_{10}H_7OH$, is usually prepared from naphthalene-sulphonic acid.

Characters and Tests.—In white or nearly white crystalline laminæ, or in powder. It has a sharp, pungent taste, and an odour resembling phenol. Soluble in about 1000 parts of cold *water*, in 75 parts of boiling *water*, in less than 2 parts of cold *alcohol* (90 per cent.), and very soluble in boiling *alcohol* (90 per cent.), *ether*, *chloroform*, or *solution of sodium hydroxide*. Melting point 251·6° F. (122° C.). On the addition of 1 drop of *solution of ammonia* to a hot saturated aqueous solution of Beta-naphthol a blue fluorescence is developed. A cold saturated aqueous solution gives a white turbidity with *solution of chlorine*, which, on the addition of excess of *solution of ammonia*, gives place to a green or brown coloration. 0·1 gramme of Beta-naphthol dissolved in 10 cubic centimetres of boiling *water*, and treated with 10 drops of a 3 per cent. aqueous solution of *ferric chloride*, gives a white precipitate becoming brown, but not violet (absence of alpha-naphthol). Beta-naphthol should be neutral to *litmus paper* moistened with *alcohol* (90 per cent.), and should leave no residue on heating to redness (absence of mineral impurities).

Dose.—3 to 10 grains.

NUX VOMICA.

Nux Vomica.

The dried ripe seeds of Strychnos Nux-vomica, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. iii. plate 178].

Characters.—Nearly disc-shaped, ash-grey, or greenish-grey seeds, three-quarters of an inch to one inch (two to two and a half centimetres) in diameter, and a quarter of an inch (six millimetres) in thickness. They are concavo-convex, nearly flat, but sometimes irregularly bent, rounded or somewhat acute at the margin, where there is a small prominence from which a raised line passes to the central hilum. The surface is covered with short, satiny, radiately arranged and closely appressed hairs. The endosperm is large and horny, the cotyledons small and leafy. The seeds have an extremely bitter taste. Unbroken, they have no odour.

Dose, in powder.—1 to 4 grains.

OLEUM AMYGDALÆ.

Almond Oil.

The oil expressed from the Bitter or Sweet Almond.

Characters and Tests.—Pale yellow, nearly inodorous, with a bland nutty taste. Soluble in *ether* and *chloroform* in all proportions. Specific gravity 0·915 to 0·920. It does not congeal until cooled to nearly −4° F. (−20° C.). If 2 cubic centimetres of the Oil be well shaken with 1 cubic centimetre of *fuming nitric acid* and 1 cubic centimetre of *water*, a whitish, not brownish-red, mixture should be formed, which after standing for 6 hours at about 50° F. (10° C.) should separate into a solid white mass and a nearly colourless liquid (absence of peach-kernel oil and other fixed oils).

OLEUM ANETHI.

Oil of Dill.

The oil distilled from Dill Fruit.

Characters and Test.—Colour pale yellow, odour that of the fruit, taste sweet and aromatic. Specific gravity 0·905 to 0·920. It rotates the plane of a ray of polarised light not less than 70° to the right, at 60° F. (15·5° C.), in a tube 100 millimetres long.

Dose.—½ to 3 minims.

OLEUM ANISI.

Oil of Anise.

The oil distilled from Anise Fruit; or from the fruit of the star-anise, Illicium verum, *Hook. fil.* [*Bot. Mag.* plate 7005].

Characters and Tests.—Colourless or pale yellow; with the odour of the fruit, and a mildly aromatic taste. It congeals, when stirred, at temperatures between 50° and 59° F. (10° to 15° C.), and should not again become liquid below 59° F. (15° C.). Specific gravity—at 68° F. (20° C.)—0·975 to 0·990. It rotates the plane of a ray of polarised light slightly to the left.

Dose.—½ to 3 minims.

OLEUM ANTHEMIDIS.

Oil of Chamomile.

The oil distilled from Chamomile Flowers.

Characters.—Pale blue or greenish-blue when freshly distilled, but gradually becoming yellowish-brown. It should have the aromatic taste and odour of the flowers. Specific gravity 0·905 to 0·915.

Dose.—$\frac{1}{2}$ to 3 minims.

OLEUM CADINUM.

Oil of Cade.

Synonym.—Juniper Tar Oil.

An empyreumatic oily liquid obtained by the destructive distillation of the woody portions of Juniperus Oxycedrus, *Linn.* [*Moggridge, Flora of Mentone,* tab. 65], and some other species.

Characters and Tests.—A dark reddish-brown or nearly black, more or less viscid, oily liquid, with a not unpleasant empyreumatic odour and an aromatic bitter and acrid taste. Specific gravity about 0·990. It is soluble in *ether* and *chloroform*; partially soluble in cold, almost wholly in hot *alcohol* (90 per cent.). It is very slightly soluble in *water.* The filtered aqueous solution is almost colourless and possesses an acid reaction.

OLEUM CAJUPUTI.

Oil of Cajuput.

The oil distilled from the leaves of Melaleuca Leucadendron, *Linn.* (Melaleuca Cajuputi, *Roxb.*) [*Bentl. and Trim. Med. Pl.* vol. ii. plate 108].

Characters and Test.—Bluish-green, with an agreeable penetrating camphoraceous odour, and an aromatic bitterish camphoraceous taste. Specific gravity from 0·922 to 0·930. It should become semi-solid on being stirred, when cold, with a third or half its volume of phosphoric acid of commerce of specific gravity 1·750 (presence of a due proportion of cineol).

Dose.—$\frac{1}{2}$ to 3 minims.

OLEUM CARUI.

Oil of Caraway.

The oil distilled from Caraway Fruit.

Characters.—Colourless or pale yellow, with the characteristic odour of the fruit, and a spicy taste. Specific gravity 0·910 to 0·920.

Dose.—$\frac{1}{2}$ to 3 minims.

OLEUM CARYOPHYLLI.

Oil of Cloves.

The oil distilled from Cloves.

Characters and Tests.—Colourless or pale yellow when recent, but gradually becoming reddish-brown, having the strong odour and taste of cloves. Specific gravity not below 1·050. An alcoholic solution yields a blue colour with *test-solution of ferric chloride.* Shaken with its own volume of *strong solution of ammonia* it forms a semi-solid yellowish mass.

Dose.—$\frac{1}{2}$ to 3 minims.

OLEUM CINNAMOMI.

Oil of Cinnamon.

The oil distilled from Cinnamon Bark.

Characters and Tests.—Yellow when freshly distilled, but gradually becoming reddish; having the odour and taste of the bark. Specific gravity 1·025 to 1·035. 1 cubic centimetre dissolved in 5 cubic centimetres of *alcohol* (90 per cent.), and *test-solution of ferric chloride* added, should afford a pale green, but not a decided blue coloration (absence of cinnamon-leaf oil). If 10 cubic centimetres be well shaken with 50 cubic centimetres of a boiling 30 per cent. solution of *sodium hydrogen sulphite*, an oily layer separates, which, when cooled to 60° F. (15·5° C.), should not measure more than 5 cubic centimetres (absence of more than 50 per cent. of constituents other than aldehydes).

Dose.—$\frac{1}{2}$ to 3 minims.

OLEUM COPAIBÆ.

Oil of Copaiba.

The oil distilled from Copaiba.

Characters and Tests.—Colourless or pale yellow, with the odour and taste of copaiba. Specific gravity 0·900 to 0·910. It turns the plane of a ray of polarised light to the left, and is soluble in its own volume of *absolute alcohol* (distinction from African copaiba oil).

Dose.—5 to 20 minims.

OLEUM CORIANDRI.

Oil of Coriander.

The oil distilled from Coriander Fruit.

Characters and Test.—Colourless or pale yellow, having the odour and flavour of the fruit. Specific gravity 0·870 to 0·885. If 1 cubic centimetre of the Oil be mixed with 3 cubic centimetres of *alcohol* (70 per cent.), a clear solution results (absence of oil of turpentine and added terpenes).

Dose.—$\frac{1}{2}$ to 3 minims.

OLEUM CROTONIS.

Croton Oil.

The oil expressed from the seeds of Croton Tiglium, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. iv. plate 239].

Characters and Tests.—Brownish-yellow to dark reddish-brown, viscid, with a disagreeable odour and an acrid burning taste. Specific gravity 0·940 to 0·960. Entirely soluble in *absolute alcohol.* Freely soluble in *ether* and *chloroform.* An alcoholic solution should not redden moistened *blue litmus paper.* If to 2 cubic centimetres 1 cubic centimetre of *fuming nitric acid* and 1 of *water* be added, and the mixture be shaken vigorously, it should not solidify, either completely or partially, but only thicken slightly, after standing for two days (absence of other non-drying oils).

Dose.—½ to 1 minim.

OLEUM CUBEBÆ.

Oil of Cubebs.

The oil distilled from Cubebs.

Characters.—Colourless, pale-green, or greenish-yellow; with the odour and camphoraceous taste of cubebs. Specific gravity 0·910 to 0·930.

Dose.—5 to 20 minims.

OLEUM EUCALYPTI.

Oil of Eucalyptus.

The oil distilled from the fresh leaves of Eucalyptus Globulus, *Labill.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 109], and other species of Eucalyptus.

Characters and Tests.—Colourless or pale-yellow, having an aromatic camphoraceous odour, and a pungent taste, leaving a sensation of coldness in the mouth. Specific gravity 0·910 to 0·930. It should not rotate the plane of a ray of polarised light more than 10° in either direction in a tube 100 millimetres long, and it should become semi-solid on being stirred, when cold, with a third or half its volume of phosphoric acid of commerce of specific gravity 1·750 (presence of a due proportion of cineol). If to 1 cubic centimetre of the Oil there be added 2 cubic centimetres of *glacial acetic acid* and 2 cubic centimetres of a saturated aqueous solution of *sodium nitrite*, the mixture, when gently stirred, should not form a crystalline mass (exclusion of eucalyptus oils containing much phellandrene).

Dose.—½ to 3 minims.

OLEUM JUNIPERI.

Oil of Juniper.

The oil distilled from the full-grown unripe green fruit of Juniperus communis, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. iv. plate 255].

Characters and Test.—Colourless or pale-greenish yellow, with the characteristic odour of the fruit, and a warm, aromatic, bitterish taste. Specific gravity 0·865 to 0·890. The Oil is soluble, with slight turbidity, in 4 times its own volume of a mixture of equal parts of *absolute alcohol* and *alcohol* (90 per cent.).

Dose.—½ to 3 minims.

OLEUM LAVANDULÆ.

Oil of Lavender.

The oil distilled from the flowers of Lavandula vera, *DC.* [*Bentl. and Trim. Med. Pl.* vol. iii. plate 199].

Characters and Test.—Pale yellow or nearly colourless, with the fragrant odour of the flowers, and a pungent bitter taste. Specific gravity not below 0·885. It should dissolve in 3 times its volume of *alcohol* (70 per cent.).

Dose.—½ to 3 minims.

OLEUM LIMONIS.

Oil of Lemon.

The oil obtained from fresh Lemon Peel.

Characters and Tests.—Pale yellow, with the fragrant odour of the lemon, and a warm bitterish aromatic taste. Specific gravity 0·857 to 0·860. It should rotate the plane of a ray of polarised light not less than 59° to the right in a tube 100 millimetres long; and if 100 volumes be fractionally distilled, the 10 volumes first collected should not produce a rotation differing by more than 2° from that produced by the original Oil.

Dose.—½ to 3 minims.

OLEUM LINI.

Linseed Oil.

The oil expressed from Linseed at ordinary temperatures.

Characters.—Viscid, yellow, with a faint but distinct odour, and bland taste. Specific gravity 0·930 to 0·940. It is soluble in 10 parts of *alcohol* (90 per cent.), and in Oil of Turpentine. It gradually thickens by exposure to the air, forming, when spread in a thin layer on glass, a hard transparent varnish. It does not congeal above −4° F. (−20° C.).

OLEUM MENTHÆ PIPERITÆ.

Oil of Peppermint.

The oil distilled from fresh flowering peppermint, Mentha piperita, *Sm.* [*Bentl. and Trim. Med. Pl.* vol. iii. plate 203].

Characters and Tests.—Colourless, pale yellow, or greenish-yellow when recently distilled, but gradually becoming darker by age. It has the odour of the herb, and a strong penetrating aromatic taste, followed by a sensation of coldness in the mouth. Specific gravity 0·900 to 0·920. It should dissolve in four times its volume of *alcohol* (70 per cent.). If a portion of the Oil be cooled to 17° F. (−8·3° C.) and a few crystals of Menthol be added, a considerable separation of menthol should take place.

Dose.—½ to 3 minims.

OLEUM MENTHÆ VIRIDIS.

Oil of Spearmint.

The oil distilled from fresh flowering spearmint, Mentha viridis, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. iii. plate 202].

Characters and Test.—Colourless, pale yellow, or greenish-yellow when recently distilled, but becoming darker by age. It has the odour and taste of the herb. Specific gravity 0·920 to 0·940. The Oil forms a clear solution with its own volume of a mixture of equal parts of *absolute alcohol* and *alcohol* (90 per cent.).

Dose.—½ to 3 minims.

OLEUM MORRHUÆ.

Cod-liver Oil.

The oil extracted from the fresh liver of the cod, Gadus Morrhua, *Linn.* [*Brandt and Ratzeburg, Med. Zool.* vol. ii. tab. ix. fig. 3], by the application of a temperature not exceeding 180° F. (82·2° C.); and from which solid fat has been separated by filtration at about 23° F. (−5° C.).

Characters and Tests.—Pale yellow, with a slight fishy but not rancid odour. Specific gravity 0·920 to 0·930. Readily soluble in *ether* and *chloroform*, and slightly soluble in *alcohol* (90 per cent.). A drop of *sulphuric acid* added to a few drops of the Oil on a porcelain slab develops a violet coloration. When *nitric acid* is carefully poured into some of the Oil contained in a test-tube, a precipitate of coagulated albumen should be formed at the surface of contact of the two liquids. No solid fat should separate on exposure of the Oil for two hours to a temperature of 32° F. (0° C.).

Dose.—1 to 4 fluid drachms.

OLEUM MYRISTICÆ.

Oil of Nutmeg.

The oil distilled from Nutmeg.

Characters and Tests.—Colourless or pale yellow, having the odour and taste of nutmeg. Specific gravity 0·870 to 0·910. The Oil forms a clear solution with its own volume of a mixture of equal parts of *absolute alcohol* and *alcohol* (90 per cent.). A little evaporated on a water-bath should not leave a residue which crystallises on cooling (absence of the concrete oil of nutmeg).

Dose.—½ to 3 minims.

OLEUM OLIVÆ.

Olive Oil.

The oil expressed from the ripe fruit of Olea europæa, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. iii. plate 172].

Characters and Test.—Pale yellow or greenish-yellow, with a faint odour, and a bland taste. Specific gravity 0·914 to 0·919. At 50° F. (10° C.) it is liable to become of a pasty consistence, and at 32° F. (0° C.) to form a nearly solid granular mass. If 10 cubic centimetres of the Oil be shaken with 2 cubic centimetres of a reagent prepared by dissolving 1 gramme of *silver nitrate* in 100 cubic centimetres of *absolute alcohol,* with the addition of 20 cubic centimetres of *ether* and one drop of *nitric acid,* no blackening should occur when the mixture is heated on a water-bath for ten minutes (absence of cotton-seed oil).

OLEUM PHOSPHORATUM.

Phosphorated Oil.

Heat Almond Oil in a porcelain dish to about 300° F. (149° C.), and keep it at this temperature for about fifteen minutes, then let it cool, and filter it through paper. Put ninety-nine parts by weight into a stoppered bottle, capable of holding rather more than this quantity, and add to it one part by weight of dry Phosphorus. Immerse the bottle in hot water until the mixture has acquired the temperature of 180° F. (82·2° C.), removing the stopper two or three times to allow the escape of expanded air; then shake until the Phosphorus is entirely dissolved.

Characters.—A clear straw-coloured liquid; phosphorescent in the dark. It contains 1 per cent. of Phosphorus.

Dose.—1 to 5 minims.

OLEUM PIMENTÆ.

Oil of Pimento.

The oil distilled from Pimento.

Characters and Test.—Yellow or yellowish-red when recently distilled, but gradually becomes darker. It has the odour and taste of pimento. Specific gravity not below 1·040. It should be converted into a semi-solid mass when shaken with an equal volume of *strong solution of ammonia.*

Dose.—½ to 3 minims.

OLEUM PINI.

Oil of Pine.

The oil distilled from the fresh leaves of Pinus Pumilio, *Haenke* [*Lamb. Gen. Pin.* I. plate 2].

Characters and Tests.—Colourless or nearly so, with a pleasant aromatic odour and pungent taste. Specific gravity 0·865 to 0·870. It should rotate the plane of a ray of polarised light from 5° to 10° to the left at 60° F. (15·5° C.) in a tube 100 millimetres long. Not more than 10 per cent. should distil below 329° F. (165° C.).

OLEUM RICINI.

Castor Oil.

The oil expressed from the seeds of Ricinus communis, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. iv. plate 237].

Characters and Tests.—Viscid, colourless or with a faint tinge of yellow, having scarcely any odour, and a taste bland at first but subsequently acrid and unpleasant. Specific gravity 0·950 to 0·970. Soluble in an equal volume of *absolute alcohol,* and in five times its volume of *alcohol* (90 per cent.). It dries slowly to a varnish when exposed to the air in a thin layer. If 3 cubic centimetres of the Oil be shaken with an equal volume of *carbon bisulphide*, and 1 cubic centimetre of *sulphuric acid* be then added, the mixture on being shaken should not become brown (absence of various fixed oils, including cotton-seed oil). Equal volumes of Castor Oil and *petroleum spirit* do not yield a clear mixture if kept at 60° F. (15·5° C.); but they yield a perfectly clear solution if other fixed oils be present.

Dose.—1 to 8 fluid drachms.

OLEUM ROSÆ.

Oil of Rose.

Synonym.—Otto of Rose.

The oil distilled from the fresh flowers of Rosa damascena, *Linn.* [*Redouté, Les roses,* plate 109].

Characters and Test.—A pale yellow crystalline semi-solid, with the strong fragrant odour of rose and a sweet taste. Specific gravity 0·856 to 0·860 at 86° F. (30° C.). The congealing and melting points vary according to the proportion of crystalline matter, but should lie between 67° and 72° F. (19·4° and 22·2° C.).

OLEUM ROSMARINI.

Oil of Rosemary.

The oil distilled from the flowering tops of Rosmarinus officinalis, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. iii. plate 207].

Characters and Tests.—Colourless or pale yellow, with the odour of rosemary, and a warm camphoraceous taste. Specific gravity 0·900 to 0·915. It should dissolve in twice its volume of *alcohol* (90 per cent.), and should not rotate the plane of a polarised ray of light more than 10° to the right in a tube 100 millimetres long (absence of oil of turpentine).

Dose.—$\frac{1}{2}$ to 3 minims.

OLEUM SANTALI.

Oil of Sandal Wood.

Synonym.—Oil of Santal Wood.

The oil distilled from the wood of Santalum album, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. iv. plate 252].

Characters and Tests.—Somewhat viscid in consistence, pale yellow in colour, having a strongly aromatic odour and a pungent and spicy taste. Specific gravity 0·975 to 0·980. It forms a clear solution with six times its volume of *alcohol* (70 per cent.) (absence of cedar wood oil). It rotates the plane of a ray of polarised light to the left, through an angle of not less than 16° and not more than 20°, in a tube 100 millimetres long (absence of other varieties of sandal wood oil).

Dose.—5 to 30 minims.

OLEUM SINAPIS VOLATILE.

Volatile Oil of Mustard.

Distilled from Black Mustard Seeds after maceration with water.

Characters and Test.—Colourless or pale yellow. Has an intensely penetrating odour and a very acrid taste. Applied to the skin it produces almost immediate vesication. Specific gravity 1·018 to 1·030. It distils between 297° F. (147·2° C.) and 306° F. (152·2° C.), and the first and last portions of the distillate should have the same specific gravity as the original Oil (absence of ethylic alcohol and petroleum).

OLEUM TEREBINTHINÆ.

Oil of Turpentine.

The oil distilled, usually by the aid of steam, from the oleo-resin (turpentine) obtained from Pinus sylvestris, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. iv. plate 257], and other species of Pinus; rectified if necessary.

Characters and Tests.—Limpid, colourless, with a strong peculiar odour, which varies in the different kinds of Oil, and a pungent and somewhat bitter taste. It is soluble in its own volume of *glacial acetic acid.* It commences to boil at about 320° F. (160° C.), and almost entirely distils below 356° F. (180° C.), little or no residue remaining.

Dose.—2 to 10 minims; as an anthelmintic, 3 to 4 fluid drachms.

OLEUM THEOBROMATIS.

Oil of Theobroma.

Synonym.—Cacao Butter.

A concrete oil obtained by pressing the warm crushed seeds of Theobroma Cacao, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. i. plate 38].

Characters and Tests.—A yellowish-white solid, breaking with a smooth fracture; odour resembling that of cocoa; taste bland and agreeable; free from rancidity. It softens at 80° F. (26·6° C.) and melts at temperatures between 88° and 93° F. (31·1° and 33·9° C.). If 1 gramme be dissolved in 3 cubic centimetres of *ether*, in a test-tube, at 62° or 63° F. (or 17° C.), and the tube be placed in water at 32° F. (0° C.), the liquid should neither become turbid nor deposit a granular mass in less than three minutes; and if the mixture after congealing be exposed to a temperature of 60° F. (15·5° C.) it should gradually afford a clear solution (absence of other fats).

OPIUM.

Opium.

The juice obtained by incision from the unripe capsules of Papaver somniferum, *Linn.*, inspissated by spontaneous evaporation.

Any suitable variety of opium may be employed as a source of Tincture of Opium and Extract of Opium of the respective official alkaloidal strengths, provided that when dry it contains not less than seven and a half per cent. of anhydrous morphine; but, when otherwise used for officially recognised purposes, opium must be of such a strength that when dried, and powdered, the powder heated to 212° F. (100° C.) until it ceases to lose moisture, and the product tested by the appended method, such dry powder shall yield not less than nine and a half per cent., and not more than ten and a half per cent., of anhydrous morphine. Opium yielding when dried more than ten per cent. of anhydrous morphine may be diluted to that percentage with any opium containing when dry between seven and a half and ten per cent. of anhydrous morphine, or with Milk Sugar.

Characters.—Usually in rounded, irregularly formed, or flattened masses, varying in weight, but commonly from about eight ounces to two pounds (two hundred and fifty to one thousand grammes). When fresh, plastic, and internally somewhat moist, coarsely granular, or nearly smooth, and reddish- or chestnut-brown; but becoming harder on keeping, and darkening to blackish-brown. Odour strong, and characteristic; taste bitter.

Test.—

Opium, dried at 212° F. (100° C.) and in No. 50 powder	14 grammes
Calcium Hydroxide, freshly prepared	6 grammes
Ammonium Chloride	4 grammes
Alcohol (90 per cent.)	of each a sufficient quantity
Ether	
Distilled Water	

Triturate together the Opium, *calcium hydroxide*, and 40 cubic centimetres of *water* in a mortar until a uniform mixture results; add 100 cubic centimetres of *water* and stir occasionally during half an hour. Filter the mixture through a plaited filter, about 10 centimetres in diameter, into a wide-mouthed bottle having a capacity of about 300 cubic centimetres, and marked at exactly 104 cubic centimetres, until the filtrate reaches this mark. To the filtered liquid (representing 10 grammes of opium) add 10 cubic centimetres of *alcohol* (90 per cent.) and 50 cubic centimetres of *ether*; shake the mixture; add the *ammonium chloride*, shake well and frequently during half an hour; set aside for 12 hours for the morphine to separate. Counterbalance two small filters; place one within the other in a small funnel in such a way that the triple fold of the inner filter shall be superposed upon the single fold of the outer filter; wet them with *ether*; remove the ethereal layer of the liquid in the bottle as completely as possible by means of a small pipette, transferring the liquid to the filter; rinse the bottle with 20 cubic centimetres of *ether*, again transferring the ethereal layer, by means of the pipette, to the filter; wash the filter with a total of 10 cubic centimetres of *ether*, added slowly and in portions. Let the filter dry in the air, and pour upon it the contents of the bottle in portions, in such a way as to transfer the granular crystalline morphine as completely as possible to the filter. When all the liquid has passed through, wash the remainder of the morphine from the bottle with *morphinated water*, until the whole has been removed. Wash the crystals with *morphinated water* until the washings are free from colour; allow the filter to drain, and dry it, first by pressing between sheets of bibulous paper, afterwards at a temperature between 131° and 140° F. (55° and 60° C.), finally at 230° F. (110° C.) for 2 hours. Weigh the crystals in the inner filter, counterbalancing by the outer filter. Take 0·5 gramme of the crystals and titrate with *decinormal volumetric solution of sulphuric acid* until the liquid, after boiling, slightly reddens *blue litmus paper*. 1 cubic centimetre of this *volumetric solution* represents 0·0285 gramme of pure anhydrous morphine. The weight of pure anhydrous morphine indicated by the titration, plus 0·104 gramme (representing the average loss of morphine during the process), should amount in total to 1 gramme, that is to say, to a total of not less than 0·95 gramme and not more than 1·05 grammes, corresponding to about 10 per cent. of anhydrous morphine in the dry powdered opium.

Dose.—½ to 2 grains.

OXYMEL.

Oxymel.

	IMPERIAL	METRIC
Clarified Honey, liquefied	40 ounces	800 grammes
Acetic Acid	5 fl. ounces	100 cubic centimetres
Distilled Water	a sufficient quantity	

Mix the Clarified Honey with the Acetic Acid and about five fluid ounces (or one hundred cubic centimetres) of Distilled Water, or sufficient to produce Oxymel having the specific gravity 1·320.

Dose.—1 to 2 fluid drachms.

OXYMEL SCILLÆ.

Oxymel of Squill.

	IMPERIAL	METRIC
Squill, bruised	2½ ounces	75 grammes
Acetic Acid	2½ fl. ounces	75 cubic centimetres
Distilled Water	8 fl. ounces	240 cubic centimetres
Clarified Honey, liquefied	a sufficient quantity	

Digest the Squill for seven days in a mixture of the Acetic Acid and Distilled Water. Press strongly; filter. Mix the product, which should measure approximately ten fluid ounces (or three hundred cubic centimetres), with about twenty-seven fluid ounces (or eight hundred and ten cubic centimetres) of the Clarified Honey, or sufficient to produce Oxymel of Squill having the specific gravity 1·320.

Dose.—½ to 1 fluid drachm.

PAPAVERIS CAPSULÆ.

Poppy Capsules.

The nearly ripe dried fruits of Papaver somniferum, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. i. plate 18].

Characters.—Rounded, depressed, or ovoid capsules with a thin, dry, brittle pericarp. They are usually from two to three inches (five to seven and a half centimetres) in diameter, are suddenly contracted below into a neck, and are crowned above by the stellately arranged stigmas. The pericarp is pale yellowish-brown externally, and frequently marked with dark spots; from its inner surface a number of thin brittle parietal placentas project into the cavity. The seeds are numerous, small, reniform, reticulated and whitish. The fruits are inodorous; the pericarp has a bitter taste.

PARAFFINUM DURUM.

Hard Paraffin.

A mixture of several of the harder members of the paraffin series of hydrocarbons; usually obtained by distillation from shale, separation of the liquid oils by refrigeration, and purification of the solid product.

Characters and Tests.—Colourless, semi-transparent, crystalline, inodorous and tasteless, slightly greasy to the touch. Specific gravity 0·82 to 0·94. Insoluble in *water*, slightly soluble in *absolute alcohol*, almost entirely soluble in *ether*. An alcoholic solution should not redden *litmus*. It melts at 130° to 135° F. (54·4° to 57·2° C.), and burns with a bright flame, leaving no residue.

PARAFFINUM LIQUIDUM.

Liquid Paraffin.

A clear oily liquid, obtained from petroleum, after the more volatile portions have been removed by distillation.

Characters and Tests.—Colourless, odourless, tasteless, not fluorescent. Boiling point not below 680° F. (360° C.). Specific gravity from 0·885 to 0·890. 3 cubic centimetres, heated with an equal volume of *sulphuric acid* in a test-tube placed in boiling water for 10 minutes, with frequent agitation, should not colour the separated layer of acid of a deeper tint than pale brown. *Alcohol* (90 per cent.) boiled with Liquid Paraffin should not redden *blue litmus paper* (absence of acid). A mixture of 4 cubic centimetres with 2 of *absolute alcohol*, and 2 drops of a clear saturated solution of Lead Oxide in *solution of sodium hydroxide*, should remain colourless when kept at 158° F. (70° C.) for 10 minutes (absence of sulphur compounds).

PARAFFINUM MOLLE.

Soft Paraffin.

A semi-solid mixture containing soft members of the paraffin series of hydrocarbons; usually obtained by purifying the less volatile portions of petroleum.

Characters and Tests.—White or yellow, translucent, soft, unctuous to the touch, free from acidity, alkalinity, or any unpleasant odour or flavour, even when warmed to 120° F. (48·9° C.). Specific gravity at the melting point 0·840 to 0·870. Melts at 96° to 102° F. (35·5° to 38·9° C.) or even somewhat higher, volatilises without giving off acrid vapours, and burns with a bright flame, leaving no residue. Insoluble in *water*, slightly soluble in *absolute alcohol*, freely soluble in *ether*, *chloroform*, and *benzol*. After treating with boiling *solution of sodium hydroxide* the aqueous liquid yields no precipitate or oily matter on adding excess of acid (absence of fixed oils, fats, and resin).

PARALDEHYDUM.

Paraldehyde.

Paraldehyde, $C_6H_{12}O_3$, is a product of the polymerisation of aldehyde by various acids and salts.

Characters and Tests.—A clear colourless liquid having a characteristic ethereal odour and an acrid, and afterwards cool, taste. Soluble in 10 parts of *water* at 60° F. (15·5° C.) ; less soluble in hot *water.* Miscible, in all proportions, with *alcohol* (90 per cent.) and with *ether.* An aqueous solution should not affect *solution of litmus.* Specific gravity 0·998. Boiling point 255·2° F. (124° C.). It may be congealed to a clear crystalline mass which melts at about 50° F. (10° C.). It affords no coloration on standing for two hours mixed with *solution of potassium hydroxide* (absence of aldehyde), and should yield no characteristic reaction with the tests for sulphates or for chlorides.

Dose.—$\frac{1}{2}$ to 2 fluid drachms.

PAREIRÆ RADIX.

Pareira Root.

The dried root of Chondrodendron tomentosum, *Ruiz and Pavon* [*Bentl. and Trim. Med. Pl.* vol. i. plate 11].

Characters.—In long and nearly cylindrical more or less twisted pieces, from about three-quarters of an inch to two or more inches (two to five centimetres) in diameter ; covered with a thin blackish-brown bark, and marked externally with longitudinal furrows and transverse ridges and fissures. Internally yellowish- or brownish-grey, with well-marked concentric or more or less eccentric crenated zones, the porous wood being separated into wedge-shaped portions by large medullary rays, and when cut presenting a waxy appearance. No odour ; taste bitter.

PEPSINUM.

Pepsin.

An enzyme obtained from the mucous lining of the fresh and healthy stomach of the pig, sheep, or calf. Tested as described in the following paragraph, it should dissolve 2500 times its weight of hard-boiled white of eggs.

Characters and Tests.—A light yellowish-brown or white powder, or pale-yellow translucent grains or scales, having a faint odour and a slightly saline taste free from any trace of putrescence, and liable to absorb moisture from the air. Moderately soluble in *water*, and soluble in about 100 parts of *alcohol* (90 per cent.). If 12·5 grammes of coagulated and firm white of fresh eggs, 125 cubic centimetres of acidulated *water* containing about 0·2 per cent. of hydrogen chloride (HCl), and 0·005 gramme of Pepsin, be digested together at 105° F. (40·5° C.) for six hours, and shaken frequently, the coagulated white of eggs dissolves, leaving only a few small flakes, in an almost clear solution. The 'white of eggs' should be prepared by boiling quite fresh eggs in water for 15 minutes, then immersing them in cold water, and, as soon as sufficiently cool for handling, separating the whites, washing off any fragments of yolk or membrane with water, removing the water with a clean towel, then at once rubbing the whites through a sieve having twelve meshes to a centimetre, and using the product before it has lost moisture. For the 'acidulated *water*' mix the official Hydrochloric Acid with *water* in the proportion of 1 gramme to 156 cubic centimetres; this will give a solution containing about 0·2 per cent. of hydrogen chloride (HCl).

Dose.—5 to 10 grains.

PHENACETINUM.

Phenacetin.

Para-acet-phenetidin, $C_2H_5O{\cdot}C_6H_4{\cdot}NHCOCH_3$, or Phenacetin, is produced by the interaction of glacial acetic acid and para-phenetidin, a body obtained from para-nitrophenol.

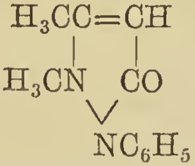
Characters and Tests.—White, tasteless, inodorous, glistening, scaly crystals, neutral to *litmus*. Melting point 275° F. (135° C.). Very sparingly soluble in cold *water*, more freely in boiling *water*; soluble in 20 parts of *alcohol* (90 per cent.). 0·1 gramme boiled with 2 cubic centimetres of *hydrochloric acid* for half a minute yields a liquid which, diluted with 10 times its volume of *water*, cooled, and filtered, assumes a deep-red coloration on the addition of *solution of chromic acid.* Heated with free access of air it burns, leaving no residue. *Sulphuric acid* dissolves it without colour. A cold saturated aqueous solution should not become turbid on the addition of *solution of bromine* (absence of acetanilide). A mixture of 0·3 gramme of Phenacetin with 1 cubic centimetre of *alcohol* (90 per cent.) should not acquire a red tint when diluted with three times its volume of *water*, and boiled with one drop of *volumetric solution of iodine* (absence of paraphenetidin).

Dose.—5 to 10 grains.

PHENAZONUM.

Phenazone.[1]

Phenazone, or phenyl-dimethyl-iso-pyrazolone, is obtainable from phenyl-hydrazine by interaction with aceto-acetic ether, and the subsequent interaction of the resulting phenyl-methyl-iso-pyrazolone with methyl iodide. Its constitution is indicated by the following formula:



$$\begin{array}{c} H_3CC{=}CH \\ | \qquad | \\ H_3CN \quad CO \\ \diagdown\diagup \\ NC_6H_5 \end{array}$$

Characters and Tests.—In colourless and inodorous scaly crystals with a bitter taste. Melting point about 235·4° F. (113° C.). Soluble in its own weight of *water*, in $1\frac{1}{3}$ parts of *alcohol* (90 per cent.) or of *chloroform*, and in 40 parts of *ether*. 0·1 gramme of *sodium nitrite* and 12 cubic centimetres of a 1 per cent. aqueous solution of Phenazone yield a nearly colourless liquid which turns deep green on the addition of 1 cubic centimetre of *diluted sulphuric acid.* An aqueous solution of the same strength mixed with an equal volume of *nitric acid* assumes a yellow colour, passing to crimson on warming. *Test-solution of ferric chloride* produces in a very dilute aqueous solution a deep red colour, which is nearly discharged by excess of *diluted sulphuric acid.* A

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[1] Phenazone is commonly known as 'antipyrine.'

5 per cent. aqueous solution of Phenazone gives with *test-solution of mercuric chloride* a white precipitate which disappears on boiling, but reappears as the liquid cools. The aqueous solution should not affect *solution of litmus*, and should not be affected by *hydrogen sulphide*. 2 cubic centimetres of a 1 per cent. aqueous solution should be coloured green by 2 drops of *fuming nitric acid*, and the colour should be changed to red by boiling with an additional 3 or 4 drops of the acid.

Dose.—5 to 20 grains.

PHOSPHORUS.

Phosphorus.

A solid non-metallic element obtained from calcium phosphate.

Characters and Tests.—A semi-transparent, waxlike solid, which emits white vapours and is luminous in the dark when exposed to the air. Specific gravity 1·77. It is soft and flexible at common temperatures, melts at 110° F. (43·3° C.), ignites in the air at a temperature a little above its melting point, burns with a luminous flame, and produces dense white fumes. It is insoluble in *water*, but soluble in 350 parts of *absolute alcohol*, in 80 parts of *olive oil*, in 80 parts of *ether*, in 25 parts of *chloroform*, in half its weight of *carbon bisulphide*, and in boiling *oil of turpentine*. 1 or 2 grammes should be attacked slowly and be dissolved without residue on being boiled with 5 or 10 cubic centimetres of *nitric acid* diluted with an equal volume of *water*, and the resulting solution should yield no characteristic reaction with the tests for arsenium, and only the slightest reactions with the tests for sulphates.

δ $\frac{1}{50}$ *Dose, in pill ~~or solution~~.*—$\frac{1}{100}$ to ~~$\frac{1}{20}$~~ grain.

PHYSOSTIGMATIS SEMINA.

Calabar Bean.

Omit The ripe seeds of Physostigma venenosum, *Balfour* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 80].

Characters.—Large reddish-brown or chocolate-brown oblong-reniform seeds, usually about one inch (twenty-five millimetres) long, three-quarters of an inch (eighteen millimetres) broad, and half an inch (twelve millimetres) thick. A broad dark furrow extends nearly the entire length of the curved margin. The testa is hard, thick, and somewhat rough, and encloses two firm white starchy cotyledons between which there is a large cavity. The Bean has no characteristic taste and no odour.

PHYSOSTIGMINÆ SULPHAS.

Physostigmine Sulphate.

Synonym.—Eserine Sulphate.

The sulphate, $(C_{15}H_{21}N_3O_2)_2,H_2SO_4,xH_2O$, of an alkaloid obtained from Calabar Bean.

Characters and Tests.—In yellowish-white minute crystals, becoming red by exposure to air and light, having a bitter taste, highly deliquescent, very soluble in *water*, and soluble in *alcohol* (90 per cent.). The aqueous solution is neutral to *litmus*, and affords the reactions characteristic of sulphates; when shaken with dilute *solution of potassium hydroxide* it becomes red; and when mixed with *solution of ammonia*, and evaporated to dryness on a water-bath, it leaves a bluish residue, the solution of which in very dilute acids is dichroic, being red by reflected and blue by transmitted light. A minute fragment dissolved in a few drops of *fuming nitric acid* yields a yellow liquid, which on evaporation on a water-bath darkens in colour, the residue when completely dried being of a green colour. A dilute aqueous solution applied to the eye causes contraction of the pupil. It leaves no ash when burned with free access of air.

Dose.—$\frac{1}{60}$ to $\frac{1}{20}$ grain.

PICROTOXINUM.

Picrotoxin.

A neutral principle obtained from the fruits of Anamirta paniculata, *Colebr.* [*Bentl. and Trim. Med. Pl.* vol. i. plate 14].

Characters and Tests.—In colourless and inodorous prismatic crystals, possessing a bitter taste. It melts at 378° F. (192·2° C.). It is soluble in 330 parts of cold or 35 of boiling *water*, and in 13 of cold or 3 of boiling *alcohol* (90 per cent.). It is soluble in 10 parts of *solution of potassium hydroxide*, and the resulting liquid, on boiling, immediately reduces *Fehling's solution.* Heated on platinum foil, the crystals melt, forming a yellowish liquid, which, on further heating, becomes charred, and is at length completely dissipated. It dissolves in *sulphuric acid* with a saffron-yellow colour. Its aqueous solution is not precipitated by *test-solution of mercuric chloride, solution of platinic chloride,* or *solution of tannic acid* (distinction from alkaloids).

Dose.—$\frac{1}{100}$ to $\frac{1}{25}$ grain.

PILOCARPINÆ NITRAS.

Pilocarpine Nitrate.

The nitrate of an alkaloid, $C_{11}H_{16}N_2O_2,HNO_3$, obtained from Jaborandi Leaves.

Characters and Tests.—A white crystalline powder; soluble in 8 or 9 parts of cold *water*; slightly soluble in cold, freely soluble in hot *alcohol* (90 per cent.). Strong *sulphuric acid* forms with it a yellowish solution which, on the addition of *potassium bichromate*, gradually acquires an emerald-green colour. A dilute aqueous solution applied to the eye causes contraction of the pupil. It leaves no ash when burned with free access of air (absence of mineral impurity).

Dose.—$\frac{1}{20}$ to $\frac{1}{2}$ grain.

PILULA ALOES BARBADENSIS

Pill of Barbados Aloes.

	IMPERIAL	METRIC
Barbados Aloes, in powder	2 ounces	40 grammes
Hard Soap, in powder	1 ounce	20 grammes
Oil of Caraway	1 fl. drachm	2·5 cubic centimetres
Confection of Roses	1 ounce or a sufficient quantity	20 grammes

Mix to form a mass.

Dose.—4 to 8 grains.

PILULA ALOES ET ASAFETIDÆ.

Pill of Aloes and Asafetida.

	IMPERIAL	METRIC
Socotrine Aloes, in powder	1 ounce	20 grammes
Asafetida in powder	1 ounce	20 grammes
Hard Soap, in powder	1 ounce	20 grammes
Confection of Roses	1 ounce or a sufficient quantity	20 grammes

Mix to form a mass.

Dose.—4 to 8 grains.

PILULA ALOES ET FERRI.

Pill of Aloes and Iron.

	IMPERIAL	METRIC
Exsiccated Ferrous Sulphate	1 ounce	20 grammes
Barbados Aloes, in powder	2 ounces	40 grammes
Compound Powder of Cinnamon	3 ounces	60 grammes
Syrup of Glucose	3 ounces or a sufficient quantity	60 grammes

Mix to form a mass.

Dose.—4 to 8 grains.

PILULA ALOES ET MYRRHÆ.

Pill of Aloes and Myrrh.

	IMPERIAL	METRIC
Socotrine Aloes, in powder	2 ounces	40 grammes
Myrrh, in powder	1 ounce	20 grammes
Syrup of Glucose	1½ ounces or a sufficient quantity	30 grammes

Mix to form a mass.

Dose.—4 to 8 grains.

PILULA ALOES SOCOTRINÆ.

Pill of Socotrine Aloes.

	IMPERIAL	METRIC
Socotrine Aloes, in powder	2 ounces	40 grammes
Hard Soap, in powder	1 ounce	20 grammes
Oil of Nutmeg	1 fluid drachm	2·5 cubic centimetres
Confection of Roses	1 ounce or a sufficient quantity	20 grammes

Mix to form a mass.

Dose.—4 to 8 grains.

PILULA CAMBOGIÆ COMPOSITA.

Compound Pill of Gamboge.

	IMPERIAL	METRIC
Gamboge, in powder	1 ounce	25 grammes
Barbados Aloes, in powder	1 ounce	25 grammes
Compound Powder of Cinnamon	1 ounce	25 grammes
Hard Soap, in powder	2 ounces	50 grammes
Syrup of Glucose	1 ounce or a sufficient quantity	25 grammes

Mix to form a mass.

Dose.—4 to 8 grains.

PILULA COLOCYNTHIDIS COMPOSITA.

Compound Pill of Colocynth.

	IMPERIAL	METRIC
Colocynth Pulp, in powder	1 ounce	20 grammes
Barbados Aloes, in powder	2 ounces	40 grammes
Scammony Resin, in powder	2 ounces	40 grammes
Potassium Sulphate, in very fine powder	$\frac{1}{4}$ ounce	5 grammes
Oil of Cloves	2 fl. drachms	5 cubic centimetres
Distilled Water	a sufficient quantity	

Triturate the Oil of Cloves with the Potassium Sulphate; add the Colocynth Pulp; mix; add the Barbados Aloes and Scammony Resin; after mixing intimately add the Distilled Water and beat to form a mass.

Dose.—4 to 8 grains.

PILULA COLOCYNTHIDIS ET HYOSCYAMI.

Pill of Colocynth and Hyoscyamus.

	IMPERIAL	METRIC
Compound Pill of Colocynth	2 ounces	50 grammes
Extract of Hyoscyamus	1 ounce	25 grammes

Mix to form a mass.

Dose.—4 to 8 grains.

PILULA FERRI.

Iron Pill.

	IMPERIAL	METRIC
Exsiccated Ferrous Sulphate, in fine powder	150 grains	15 grammes
Exsiccated Sodium Carbonate, in fine powder	95 grains	9·5 grammes
Gum Acacia, in powder	50 grains	5 grammes
Tragacanth, in powder	15 grains	1·5 grammes
Syrup	150 grains	15 grammes
Glycerin	10 grains	1 gramme
Distilled Water	20 grains or a sufficient quantity	2 grammes

To the Syrup, Glycerin, and Distilled Water, previously mixed, add the Ferrous Sulphate; mix; add quickly the Sodium Carbonate; mix; set aside for fifteen minutes, or until the reaction is complete; add the Gum Acacia and Tragacanth, and incorporate thoroughly.

If divided into five-grain pills, each pill will contain about 1 grain of ferrous carbonate.

Dose.—5 to 15 grains.

PILULA GALBANI COMPOSITA.

Compound Pill of Galbanum.

Synonym.—Compound Pill of Asafetida.

	IMPERIAL	METRIC
Asafetida	2 ounces .	. 50 grammes
Galbanum . . .	2 ounces .	. 50 grammes
Myrrh	2 ounces .	. 50 grammes
Syrup of Glucose . .	1 ounce .	. . 25 grammes or a sufficient quantity

Heat all together on a water-bath, stirring until the mass is uniform in consistence.

Dose.—4 to 8 grains.

PILULA HYDRARGYRI.

Mercury Pill.

Synonym.—Blue Pill.

	IMPERIAL	METRIC
Mercury	2 ounces .	40 grammes
Confection of Roses . .	3 ounces .	60 grammes
Liquorice Root, in fine powder	1 ounce .	20 grammes

Rub the Mercury with the Confection of Roses until metallic globules are no longer visible; add the Liquorice Root; beat together until thoroughly mixed.

Dose.—4 to 8 grains.

PILULA HYDRARGYRI SUBCHLORIDI COMPOSITA.

Compound Pill of Mercurous Chloride.

Synonyms.—Compound Calomel Pill; Plummer's Pill.

	IMPERIAL	METRIC
Mercurous Chloride .	1 ounce .	25 grammes
Sulphurated Antimony	1 ounce .	25 grammes
Guaiacum Resin, in powder	2 ounces .	50 grammes
Castor Oil . . .	180 grains .	10·3 grammes
Alcohol (90 per cent.) .	1 fl. drachm	3 cubic centimetres or a sufficient quantity

Mix to form a mass.

Dose.—4 to 8 grains.

PILULA IPECACUANHÆ CUM SCILLA.

Pill of Ipecacuanha with Squill.

	IMPERIAL	METRIC
Compound Powder of Ipecacuanha . .	3 ounces . .	30 grammes
Squill, in powder . .	1 ounce . .	10 grammes
Ammoniacum, in powder	1 ounce . .	10 grammes
Syrup of Glucose . .	a sufficient quantity	

Mix to form a mass.

Dose.—4 to 8 grains.

This Pill contains about 5 per cent. of Opium.

PILULA PHOSPHORI.

Phosphorus Pill.

	IMPERIAL	METRIC
Phosphorus . .	10 grains .	1 gramme
White Beeswax, melted	125 grains .	12·5 grammes
Lard, melted . .	125 grains .	12·5 grammes
Kaolin	115 grains .	11·5 grammes
Carbon Bisulphide .	33 minims .	3 cubic centimetres or a sufficient quantity

Place the melted Wax and Lard in a slightly warmed mortar, and stir until the mixture has the consistence of cream. Dissolve the Phosphorus in the Carbon Bisulphide and carefully mix the solution with the melted fats; add the Kaolin; mix well together. Keep the mixture immersed in cold water in a bottle from which the light is excluded.

When dispensed, every three grains of the mixture is to be incorporated with one grain of Gum Acacia in powder; and the resulting pills should be varnished.

Phosphorus Pill, including the Gum Acacia, contains 2 per cent. of Phosphorus; hence, is nearly double the strength of the Phosphorus Pill of the British Pharmacopœia of 1885.

Dose.—1 to 2 grains.

PILULA PLUMBI CUM OPIO.

Pill of Lead with Opium.

	IMPERIAL	METRIC
Lead Acetate, in fine powder	36 grains	6 grammes
Opium, in powder	6 grains	1 gramme
Syrup of Glucose	4 grains or a sufficient quantity	0·7 gramme

Mix to form a mass.

Dose.—2 to 4 grains.

This Pill contains about 12½ per cent. of Opium.

PILULA QUININÆ SULPHATIS.

Pill of Quinine Sulphate.

	IMPERIAL	METRIC
Quinine Sulphate	30 grains	3 grammes
Tartaric Acid, in powder	1 grain	0·1 gramme
Glycerin	4 grains	0·4 gramme
Tragacanth, in powder	1 grain	0·1 gramme

Triturate the Quinine Sulphate with the Tartaric Acid; add the product to the previously mixed Glycerin and Tragacanth; make a mass.

Dose.—2 to 8 grains.

PILULA RHEI COMPOSITA.

Compound Rhubarb Pill.

	IMPERIAL	METRIC
Rhubarb Root, in powder	3 ounces	60 grammes
Socotrine Aloes, in powder	2¼ ounces	45 grammes
Myrrh, in powder	1½ ounces	30 grammes
Hard Soap, in powder	1½ ounces	30 grammes
Oil of Peppermint	1½ fl. drachms	3·75 cubic centimetres
Syrup of Glucose	2¾ ounces or a sufficient quantity	55 grammes or a sufficient quantity

Mix to form a mass.

Dose.—4 to 8 grains.

PILULA SAPONIS COMPOSITA.

Compound Pill of Soap.

	IMPERIAL	METRIC
Opium, in powder	½ ounce	10 grammes
Hard Soap, in powder	1½ ounces	30 grammes
Syrup of Glucose	½ ounce	10 grammes

Mix to form a mass.

Dose.—2 to 4 grains.

This Pill contains 20 per cent. of Opium.

PILULA SCAMMONII COMPOSITA.

Compound Scammony Pill.

	IMPERIAL	METRIC
Scammony Resin	1 ounce	25 grammes
Jalap Resin	1 ounce	25 grammes
Curd Soap, in powder	1 ounce	25 grammes
Tincture of Ginger	3 fl. ounces	75 cubic centimetres

Add the Tincture of Ginger to the Soap and Resins; dissolve with the aid of slight heat; evaporate on a water-bath until the mass has acquired a suitable consistence for forming pills.

Dose.—4 to 8 grains.

PILULA SCILLÆ COMPOSITA.

Compound Squill Pill.

	IMPERIAL	METRIC
Squill, in powder	1¼ ounces	25 grammes
Ginger, in powder	1 ounce	20 grammes
Ammoniacum, in powder	1 ounce	20 grammes
Hard Soap, in powder	1 ounce	20 grammes
Syrup of Glucose	1 ounce or a sufficient quantity	20 grammes

Mix to form a mass.

Dose.—4 to 8 grains.

PIMENTA.

Pimento.

The dried full-grown unripe fruit of Pimenta officinalis, *Lindl.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 111].

Characters.—Dark reddish-brown, nearly globular, two-celled fruits, varying usually from one-fifth to one-third of an inch (five to eight millimetres) in diameter. The pericarp is rough externally, brittle, and crowned by the remains of the four-toothed calyx in the form of a raised ring, surrounding the remains of the style. Each cell contains a single brownish-black reniform seed. Odour and taste warm and aromatic, characteristic, somewhat resembling those of Cloves.

PIPER NIGRUM.

Black Pepper.

The dried unripe fruit of Piper nigrum, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. iv. plate 245].

Characters.—Almost black, nearly globular, inferior, one-celled fruits, usually about one-fifth of an inch (five millimetres) in diameter. The pericarp is deeply and reticulately wrinkled, and contains a single seed that completely fills the cavity. Odour aromatic; taste pungent.

PIX BURGUNDICA.

Burgundy Pitch.

The resinous exudation obtained from the stem of Picea excelsa, *Link.* [*Bentl. and Trim. Med. Pl.* vol. iv. plate 261], melted and strained.

Characters and Test.—Hard and brittle, yet gradually taking the form of the vessel in which it is kept; somewhat opaque, dull reddish-brown or yellowish-brown, fracture clean and conchoidal. Odour aromatic, especially when heated; taste sweet, aromatic, without bitterness. Readily soluble in *glacial acetic acid.*

PIX CARBONIS PRÆPARATA.

Prepared Coal Tar.

Prepared by placing commercial coal tar in a shallow vessel, and maintaining it at a temperature of 120° F. (48·9° C.) for one hour, stirring frequently.

PIX LIQUIDA.

Tar.

A bituminous liquid, obtained from the wood of Pinus sylvestris, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. iv. plate 257], and other species of Pinus, by destructive distillation. Known in commerce as Stockholm tar.

Characters and Tests.—A dark-brown or blackish semi-liquid substance, of a peculiar aromatic odour. The specific gravity varies from 1·02 to 1·15. *Water* agitated with it acquires a pale-brown colour, sharp empyreumatic taste, and acid reaction, and with dilute *test-solution of ferric chloride* assumes a red colour. Tar is completely soluble in ten times its volume of *alcohol* (90 per cent.).

PLUMBI ACETAS.

Lead Acetate.

A salt, $Pb(C_2H_3O_2)_2,3H_2O$, obtained by dissolving lead oxide or lead carbonate in acetic acid.

Characters and Tests.—In small white monoclinic prisms, slightly efflorescent, having an acetous odour and a sweet astringent taste. It is soluble in less than 3 parts of cold *water*, and in 30 parts of *alcohol* (90 per cent.). Its solution in *water* slightly reddens *litmus*, and is clear, or has only a slight milkiness, which disappears on the addition of *acetic acid.* It affords the reactions characteristic of lead and of acetates. It should yield no characteristic reaction with the tests for silver, copper, arsenium, iron, zinc, calcium, sodium, potassium, ammonium, chlorides, or nitrates. Each gramme dissolved in *water* should require for complete precipitation 53·1 cubic centimetres of the *decinormal volumetric solution of sulphuric acid.*

Dose.—1 to 5 grains.

PLUMBI CARBONAS.

Lead Carbonate.

Lead Carbonate or hydroxy-carbonate, $2PbCO_3,Pb(OH)_2$, may be prepared by the interaction of lead, water, and carbonic anhydride, in the presence of vapours of acetic acid.

Characters and Tests.—A soft heavy white powder, insoluble in *water*, entirely soluble in diluted *acetic acid.* It affords the reactions characteristic of lead and of carbonates. It should yield no characteristic reaction with the tests for zinc, calcium, or magnesium.

PLUMBI IODIDUM.

Lead Iodide.

Precipitated Lead Iodide, PbI_2, is obtained by the interaction of lead nitrate or acetate and potassium iodide.

Characters and Tests.—A heavy bright-yellow powder, soluble in about 2000 parts of cold and in about 200 parts of boiling *water*, and deposited in golden-yellow crystalline scales as the latter solution cools ; entirely soluble in *solution of ammonium chloride.* It affords the reactions characteristic of lead and of iodides. It should yield no characteristic reaction with the tests for nitrates or acetates.

PLUMBI OXIDUM.

Lead Oxide.

Synonym.—Litharge.

Lead Oxide, PbO, is prepared by the action of air on melted lead.

Characters and Tests.—Heavy scales of a pale yellowish-red colour, completely soluble in *diluted nitric acid* and in *acetic acid.* It gives the reactions of lead, but should yield no characteristic reaction with the tests for copper, iron, or carbonates.

PODOPHYLLI RESINA.

Podophyllum Resin.

	IMPERIAL	METRIC
Podophyllum Rhizome, in No. 40 powder	1 pound .	400 grammes
Alcohol (90 per cent.) .	3 pints . or a sufficient quantity	1500 cubic centimetres
Distilled Water . Hydrochloric Acid .	of each a sufficient quantity	

Exhaust the Podophyllum with the Alcohol by percolation ; place the resulting tincture in a still; recover the greater part of the alcohol ; acidulate the Distilled Water with one twenty-fourth of its bulk of Hydrochloric Acid, and slowly pour the liquid which remains after the distillation of the tincture into three times its volume of the acidulated water, constantly stirring ; allow the mixture to stand for twenty-four hours to deposit the resin; wash the resin on a filter with Distilled Water, and dry it at a temperature not exceeding 100° F. (37·7° C.).

Characters.—An amorphous powder, of a bitter taste, varying in colour from pale yellow to deep orange-brown; soluble or nearly so in *alcohol* (90 per cent.) and in *solution of ammonia*; precipitated from the former solution by *water*, from the latter by acids. Partly soluble in *ether*. It should not yield more than 1 per cent. of ash upon incineration.

Dose.—$\frac{1}{4}$ to 1 grain.

PODOPHYLLI RHIZOMA.

Podophyllum Rhizome.

Omit

Synonym.—Podophyllum Root.

The dried rhizome and roots of Podophyllum peltatum, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. i. plate 17].

Characters.—Dark reddish-brown, smooth or only slightly wrinkled, nearly cylindrical pieces, several inches in length, and from about one-fifth to one-third of an inch (five to eight millimetres) in thickness. The rhizome is enlarged at intervals of about two inches (five centimetres), and the upper surface of each enlargement is marked by a depressed circular scar, below which, on the under surface, are rather stout brittle brown roots, or the scars corresponding to them. It breaks with a short fracture, and internally is either nearly white and starch-like, or pale yellowish-brown and horny. The odour is characteristic, the taste slightly bitter and acrid.

POTASSA CAUSTICA.

Potassium Hydroxide.

Synonyms.—Caustic Potash; Potassium Hydrate.

~~Hydrate of Potassium,~~ Brit. Pharm. 1885.

Potassium hydroxide, KOH, with not more than ten per cent. of combined water and impurities, prepared by the interaction of potassium carbonate and calcium hydroxide.

Characters and Tests.—In hard white pencils or cakes, very deliquescent, powerfully alkaline and corrosive. Soluble in half its weight of *water*, and in twice its weight of *alcohol* (90 per cent.). It affords the reactions characteristic of potassium. Each gramme dissolved in *water* or in *alcohol* (90 per cent.) should leave only a trace of sediment, and should require for neutralisation at least 16·1 cubic centimetres of the *volumetric solution of sulphuric acid.* It should yield no characteristic reaction with the tests for lead, copper, or arsenium.

POTASSA SULPHURATA.

Sulphurated Potash.

Synonym.—Liver of Sulphur.

A mixture of salts of potassium, of which the chief are potassium sulphides.

	IMPERIAL	METRIC
Potassium Carbonate, in powder	10 ounces	100 grammes
Sublimed Sulphur . . .	5 ounces	50 grammes

Mix the Potassium Carbonate, previously dried, and the Sulphur, in a warm mortar; introduce them into a crucible; heat this, at first gradually, until effervescence has ceased, and finally to dull redness, so as to produce perfect fusion; pour out the liquid contents of the crucible on a clean flagstone, and cover quickly with an inverted porcelain basin so as to prevent free access of air while solidification is taking place. The solid product thus obtained should, when cool, be broken into fragments, and immediately enclosed in a green glass bottle furnished with an air-tight stopper.

Characters and Tests.—Solid greenish fragments, liver-brown when recently broken, alkaline and acrid to the taste, readily forming with *water* a yellow solution which has the odour of *hydrogen sulphide*, and evolves it freely when excess of *hydrochloric acid* is dropped into it, sulphur being at the same time deposited. This acid liquid when boiled and filtered gives a yellow precipitate with *solution of platinum chloride*, and a white precipitate with *solution of barium chloride.* About 50 per cent. of the Sulphurated Potash should be soluble in *alcohol* (90 per cent.).

POTASSII ACETAS.

Potassium Acetate.

Potassium Acetate, $CH_3{\cdot}COOK$, is prepared by fusing the product of the interaction of acetic acid and potassium carbonate.

Characters and Tests.—Either in white foliaceous satiny masses, or in granular particles, very deliquescent, alkaline to *litmus*, soluble in half its weight of *water*, and in 2 parts of *alcohol* (90 per cent.). It yields the reactions characteristic of potassium and of acetates, and should yield no characteristic reaction with the tests for lead, copper, arsenium, iron, aluminium, calcium, magnesium, carbonates, or sulphides, and only the slightest reactions with the tests for chlorides or sulphates.

Dose.—10 to 60 grains.

POTASSII BICARBONAS.

Potassium Bicarbonate.

Synonym.—Potassium Hydrogen Carbonate.

Potassium Bicarbonate, $KHCO_3$, may be obtained by saturating a strong aqueous solution of potassium carbonate with carbonic anhydride.

Characters and Tests.—Colourless monoclinic prisms, not deliquescent, of a saline feebly alkaline taste. It is soluble in 4 parts of cold *water*, but almost insoluble in *alcohol* (90 per cent.). It affords the reactions characteristic of potassium and of bicarbonates. Each gramme exposed to a low red heat leaves 0·69 gramme of a white residue, which requires for exact neutralisation 10 cubic centimetres of the *volumetric solution of sulphuric acid.* It should yield no characteristic reaction with the tests for lead, copper, arsenium, aluminium, calcium, magnesium, sodium, nitrates, sulphates, or sulphides, and only the slightest reactions with the tests for iron or for chlorides.

20 parts by weight of Potassium Bicarbonate are neutralised by 14 parts of Citric Acid, and by 15 parts of Tartaric Acid.

Dose.—5 to 30 grains.

POTASSII BICHROMAS.

Potassium Bichromate.

Synonyms.—Potassium Dichromate;
Red Chromate of Potassium.

Potassium Bichromate, K_2CrO_4,CrO_3, is obtained by roasting chrome ironstone with lime in the presence of air, and by treating the resulting chromate with a potassium salt, and subsequently with an acid.

Characters and Tests.—In large, orange-red, transparent, triclinic crystals, which are soluble in 10 parts of cold *water*; fuses below redness; at a higher temperature is decomposed, yielding green chromium oxide and yellow potassium chromate, which may be separated by dissolving the latter in *water*. Potassium Bichromate dissolved in *water* gives a yellowish-white precipitate with *solution of barium chloride*, and a purplish-red precipitate with *solution of silver nitrate*, the filtrate from either solution affording the reactions characteristic of potassium, and each precipitate being entirely soluble in *diluted nitric acid* (absence of sulphates and chlorides). The aqueous solution, digested with *sulphuric acid* and ethylic alcohol, or with many other organic compounds, acquires an emerald-green colour. 5·66 grammes of *ferrous sulphate*, dissolved in a little *water* and acidulated with *sulphuric acid*, should not cease to yield a blue colour with solution of *potassium ferricyanide* until such a quantity of solution as contains 1 gramme of the Potassium Bichromate has been added.

~~*Dose.*—$\frac{1}{10}$ to $\frac{1}{3}$ of a grain.~~

POTASSII BROMIDUM.

Potassium Bromide.

Potassium Bromide, KBr, may be obtained by adding a slight excess of bromine to a strong solution of potassium hydroxide, evaporating the solution of potassium bromide and bromate to dryness, decomposing the bromate by fusing the mixture with charcoal, and purifying by crystallisation.

Characters and Tests.—In colourless cubical crystals, with no odour, but with a pungent saline taste, soluble in 2 parts of cold *water*, and in 200 parts of *alcohol* (90 per cent.). It affords the reactions characteristic of potassium and of bromides. Each gramme, dissolved in *water*, requires for complete precipitation not less than 83·7 nor more than 85·4 cubic centimetres of the *volumetric solution of silver nitrate*. It should yield no characteristic reaction with the tests for lead, copper, arsenium, iron, aluminium, zinc, calcium, magnesium, sodium, ammonium, bromates, iodates, or cyanides, and only the slightest reactions with the tests for chlorides, iodides, or sulphates. *Test-solution of ferric chloride* should not cause a red coloration in the cold aqueous solution (absence of thiocyanates).

Dose.—5 to 30 grains.

POTASSII CARBONAS.

Potassium Carbonate.

~~*Synonym.*—Salt of Tartar.~~

Potassium carbonate, K_2CO_3, associated with either one or two molecules of water. It may be obtained from the ashes of wood, or by the interaction of crude potassium sulphate and crude calcium carbonate and carbon.

Characters and Tests.—A white crystalline powder, alkaline and caustic to the taste, very deliquescent, readily soluble in an equal weight of *water*, but insoluble in *alcohol* (90 per cent.). It affords the reactions characteristic of potassium and of carbonates. Each gramme should require for neutralisation at least 11·9 cubic centimetres of the *volumetric solution of sulphuric acid*. 2 grammes, after exposure to a red heat, should leave between 1·66 and 1·7 grammes of anhydrous potassium carbonate, K_2CO_3. It should yield no characteristic reaction with the tests for lead, copper, aluminium, calcium, magnesium, sodium, cyanides, nitrates, sulphates, sulphides, or thiosulphates, only the slightest reactions with the tests for iron, and no strongly marked reactions with the tests for chlorides.

Dose.—5 to 20 grains.

POTASSII CHLORAS.

Potassium Chlorate.

Potassium Chlorate, $KClO_3$, is obtained by passing chlorine into water holding lime or magnesia in suspension, treating the clarified liquid with potassium chloride, and subsequently crystallising the potassium chlorate.

Characters and Tests.—In colourless monoclinic crystals with a cool saline taste, soluble in 16 parts of cold and 3 parts of boiling *water.* Moistened with *hydrochloric acid* it evolves a yellow gas consisting of a mixture of chlorine and chloric oxide. When heated it fuses, gives off oxygen gas, and leaves a white residue soluble in *water*, forming a solution which affords the reactions characteristic of potassium and of chlorides. It should yield no characteristic reaction with the tests for lead, iron, aluminium, calcium, magnesium, sodium, or nitrates, and only the slightest reactions with the tests for chlorides or sulphates.

Dose.—5 to 15 grains.

POTASSII CITRAS.

Potassium Citrate.

Potassium Citrate, $C_3H_4{\cdot}OH{\cdot}(COOK)_3$, is prepared by the interaction of citric acid and potassium carbonate.

Characters and Tests.—A white powder of saline feebly acid taste, deliquescent, very soluble in *water.* It affords the reactions characteristic of potassium salts and of citrates. Each gramme of the dry salt, heated to redness till gases cease to be evolved, should leave an alkaline residue, which when treated with *water*, filtered, and well washed, should yield a clear solution requiring for neutralisation at least 9·7 cubic centimetres of the *volumetric solution of sulphuric acid.* It should yield no characteristic reaction with the tests for lead, iron, calcium, magnesium, sodium, carbonates, or tartrates, and only the slightest reactions with the tests for chlorides or sulphates.

Dose.—10 to 40 grains.

POTASSII IODIDUM.

Potassium Iodide.

Potassium Iodide, KI, may be prepared in the same manner as Potassium Bromide, iodine being used in place of bromine.

Characters and Tests.—In colourless, generally opaque, cubic crystals, soluble in less than its weight of cold *water*, and in twelve parts of *alcohol* (90 per cent.). It commonly has a feebly alkaline reaction. It affords the reactions characteristic of potassium and of iodides. Each gramme should require for complete precipitation not less than 59·5 and not more than 61·9 cubic centimetres of the *volumetric solution of silver nitrate*. It should yield no characteristic reaction with the tests for lead, copper, arsenium, iron, aluminium, calcium, magnesium, sodium, ammonium, bromates, iodates, cyanides, or nitrates, and only the slightest reactions with the tests for bromides, chlorides, carbonates, or sulphates.

Dose.—5 to 20 grains.

POTASSII NITRAS.

Potassium Nitrate.

Synonyms.—Nitre; Saltpetre.

Potassium Nitrate, KNO_3, may be obtained by purifying crude nitre, or by the interaction of sodium nitrate and potassium chloride.

Characters and Tests.—In white crystalline masses or fragments of striated six-sided rhombic prisms, colourless, having a cool saline taste. It is soluble in 4 parts of cold and half its weight of boiling *water*. It affords the reactions characteristic of potassium and of nitrates. It should yield no characteristic reaction with the tests for lead, copper, arsenium, iron, aluminium, zinc, calcium, magnesium, sodium, ammonium, chlorides, iodides, or sulphates.

Dose.—5 to 20 grains.

POTASSII PERMANGANAS.

Potassium Permanganate.

Potassium Permanganate, $K_2Mn_2O_8$, may be obtained by the interaction of potassium chlorate, potassium hydroxide, and manganese dioxide.

Characters and Tests.—Dark purple slender prismatic iridescent crystals, with a sweet astringent taste, soluble in 20 parts of cold *water*, without action on *litmus*. The crystals heated to redness decrepitate, evolve oxygen, and leave a black residue from which *water* extracts potassium hydroxide, the resulting solution affording the reactions characteristic of potassium. It should yield no characteristic reaction with the tests for lead, arsenium, iron, aluminium, calcium, magnesium, sodium, ammonium, carbonates, chlorides, or sulphates. Each gramme dissolved in *water*, and acidulated with 5 cubic centimetres of *diluted sulphuric acid*, should require for complete decolorisation 31·2 cubic centimetres of an aqueous solution containing 62·58 grammes of pure crystallised *oxalic acid* per litre.

Dose.—1 to 3 grains.

POTASSII SULPHAS.

Potassium Sulphate.

Potassium Sulphate, K_2SO_4, may be obtained by purifying the crude salt, or by the interaction of sulphuric acid and potassium chloride or certain other potassium salts.

Characters and Tests.—In colourless hard rhombic prisms terminated by six-sided pyramids; decrepitates strongly when heated; soluble in 10 parts of cold and 4 parts of boiling *water*; insoluble in *alcohol* (90 per cent.). The salt affords the reactions characteristic of potassium and of sulphates. Each gramme dissolved in *water* and acidulated with *hydrochloric acid*, gives, with *solution of barium chloride*, a white precipitate, which, when washed and dried, should weigh 1·339 grammes. It should not yield any characteristic reaction with the tests for lead, copper, arsenium, iron, aluminium, zinc, calcium, magnesium, sodium, ammonium, chlorides, or nitrates, and only the slightest reactions with the tests for chlorides. The aqueous solution has no action on *litmus* (absence of acid potassium sulphate).

Dose.—10 to 40 grains.

POTASSII TARTRAS.

Potassium Tartrate.

Normal Potassium Tartrate, $(CHOH)_2(COOK)_2,H_2O$, is obtained by neutralising Acid Potassium Tartrate with potassium carbonate.

Characters and Tests.—In small colourless four- or six-sided prisms. It is soluble in its own weight of *water.* It affords the reactions characteristic of potassium and of tartrates. Each gramme of the dry salt, heated to redness till gases cease to be evolved, should leave an alkaline residue, which, when treated with *water*, filtered, and well washed, yields a clear solution requiring for exact neutralisation 8·4 cubic centimetres of the *volumetric solution of sulphuric acid.* It should yield no characteristic reaction with the tests for lead, copper, or iron, and only the slightest reactions with the tests for calcium, magnesium, sodium, chlorides, or sulphates. The aqueous solution has no action on *litmus* (absence of acid potassium tartrate).

Dose.—30 to 240 grains.

POTASSII TARTRAS ACIDUS.

Acid Potassium Tartrate.

Synonyms.—Bitartrate of Potassium; Purified Cream of Tartar.

Acid Potassium Tartrate, $(CHOH)_2COOH{\cdot}COOK$, is obtained from the crude cream of tartar which is deposited during the fermentation of grape juice, and from the lees of wine.

Characters and Tests.—A gritty white powder, or fragments of cakes crystallised on one surface, with an acid taste. Soluble in 200 parts of cold *water*, insoluble in *alcohol.* It affords the reactions characteristic of potassium and of tartrates. Each gramme of the dry salt should require for neutralisation at least 5·2 cubic centimetres of the *volumetric solution of sodium hydroxide.* It should yield no characteristic reaction with the tests for lead, copper, or iron, and only the slightest reaction with the tests for calcium, magnesium, sodium, chlorides, or sulphates. The total amount of impurities should not exceed 2½ per cent. of the dried salt.

Dose.—20 to 60 grains.

PRUNI VIRGINIANÆ CORTEX.

Virginian Prune Bark.

The bark of Prunus serotina, *Ehrh.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 97], collected in autumn.

Characters.—In curved pieces or irregular fragments one-twelfth of an inch (two millimetres) or more in thickness. Young bark is frequently covered with a smooth, thin, reddish-brown, papery cork, or, if this has been removed, exhibits a greenish-brown inner layer; it is marked with transversely elongated lenticels and breaks with a short granular fracture. The outer surface of old bark is usually rough and nut-brown in colour. The inner surface is finely striated or fissured and reticulated; the fractured surface is reddish-grey. The Bark contains numerous groups of sclerenchymatous cells of characteristic irregular shape. Taste astringent, aromatic, and bitter; the odour, which is developed upon maceration in *water,* resembles that of the bitter almond.

PRUNUM.

Prunes.

pellet

The dried ripe fruits of Prunus domestica, *Linn., var.* Juliana, *DC.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 96].

Characters.—Somewhat ovoid or oblong, about one inch and a quarter (three centimetres) long, black, shrivelled; pulp brownish, without marked odour, but with a sweet and bland acidulous taste.

PTEROCARPI LIGNUM.

Red Sanders Wood.

Synonym.—Red Sandal-Wood.

The heart-wood of Pterocarpus santalinus, *Linn. f.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 82].

Characters.—Red Sanders Wood is imported in large heavy logs, dark reddish-brown or blackish-brown externally, and internally, if cut transversely, deep blood-red, variegated with zones of a lighter colour. It has a very slight astringent taste, and, when warmed, exhales a faint aroma. The colouring matter is soluble in *alcohol* (90 per cent.), but only sparingly soluble in *water*.

PULVIS AMYGDALÆ COMPOSITUS.

Compound Powder of Almonds.

	IMPERIAL	METRIC
Sweet Almonds . .	8 ounces . .	200 grammes
Refined Sugar, in powder	4 ounces . .	100 grammes
Gum Acacia, in powder .	1 ounce . .	25 grammes

Steep the Almonds in water until their skins can easily be removed; when thus blanched, dry them as far as possible with a soft cloth, and then thoroughly by exposure in a warm place for twenty-four hours; rub them lightly in a mortar to a smooth consistence; mix the Gum Acacia and the Sugar; add this mixture, gradually, to the bruised Almonds; rub the whole to a coarse powder.

PULVIS ANTIMONIALIS.

Antimonial Powder.

	IMPERIAL	METRIC
Antimonious Oxide . .	1 ounce . .	25 grammes
Calcium Phosphate . .	2 ounces . .	50 grammes

Mix.

Dose.—3 to 6 grains.

PULVIS CATECHU COMPOSITUS.

Compound Powder of Catechu.

	IMPERIAL	METRIC
Catechu, in powder . .	4 ounces .	100 grammes
Kino, in powder . .	2 ounces .	50 grammes
Krameria Root, in powder	2 ounces .	50 grammes
Cinnamon Bark, in powder	1 ounce . .	25 grammes
Nutmeg, in powder . .	1 ounce . .	25 grammes

Mix.

Dose.—10 to 40 grains.

PULVIS CINNAMOMI COMPOSITUS.

Compound Powder of Cinnamon.

Synonym.—Pulvis Aromaticus.

	IMPERIAL	METRIC
Cinnamon Bark, in powder .	1 ounce .	25 grammes
Cardamom Seeds, in powder	1 ounce .	25 grammes
Ginger, in powder . .	1 ounce .	25 grammes

Mix.

Dose.—10 to 40 grains.

PULVIS CRETÆ AROMATICUS.

Aromatic Powder of Chalk.

	IMPERIAL	METRIC
Cinnamon Bark, in powder	4 ounces .	80 grammes
Nutmeg, in powder . .	3 ounces .	60 grammes
Cloves, in powder . .	1½ ounces .	30 grammes
Cardamom Seeds, in powder	1 ounce .	20 grammes
Refined Sugar, in powder .	25 ounces .	500 grammes
Prepared Chalk . .	11 ounces .	220 grammes

[illegible]

Mix.

Dose.—10 to 60 grains.

PULVIS CRETÆ AROMATICUS CUM OPIO.

Aromatic Powder of Chalk with Opium.

	IMPERIAL	METRIC
Aromatic Powder of Chalk	$9\frac{3}{4}$ ounces	39 grammes
Opium, in powder	$\frac{1}{4}$ ounce	1 gramme

Mix.

Dose.—10 to 40 grains.

This Powder contains $2\frac{1}{2}$ per cent. of Opium.

PULVIS ELATERINI COMPOSITUS.

Compound Powder of Elaterin.

	IMPERIAL	METRIC
Elaterin	5 grains	1 gramme
Milk Sugar	195 grains	39 grammes

Triturate in a mortar until a fine powder is produced.

Dose.—1 to 4 grains.

PULVIS GLYCYRRHIZÆ COMPOSITUS.

[illegible]

Compound Powder of Liquorice.

	IMPERIAL	METRIC
Senna, in fine powder	2 ounces	50 grammes
Liquorice Root, in fine powder	2 ounces	50 grammes
Fennel Fruit, in fine powder	1 ounce	25 grammes
Sublimed Sulphur	1 ounce	25 grammes
Refined Sugar, in powder	6 ounces	150 grammes

Mix.

Dose.—60 to 120 grains.

PULVIS IPECACUANHÆ COMPOSITUS.

Compound Powder of Ipecacuanha.

Synonym.—Dover's Powder.

	IMPERIAL	METRIC
Ipecacuanha Root, in powder	½ ounce	10 grammes
Opium, in powder	½ ounce	10 grammes
Potassium Sulphate, in powder	4 ounces	80 grammes

Mix.

Dose.—5 to 15 grains.

This Powder contains 10 per cent. of Opium.

PULVIS JALAPÆ COMPOSITUS.

Compound Powder of Jalap.

	IMPERIAL	METRIC
Jalap, in powder	5 ounces	100 grammes
Acid Potassium Tartrate, in powder	9 ounces	180 grammes
Ginger, in powder	1 ounce	20 grammes

Mix.

Dose.—20 to 60 grains.

PULVIS KINO COMPOSITUS.

Compound Powder of Kino.

	IMPERIAL	METRIC
Kino, in powder	3¾ ounces	75 grammes
Opium, in powder	¼ ounce	5 grammes
Cinnamon Bark, in powder	1 ounce	20 grammes

Mix.

Dose.—5 to 20 grains.

This Powder contains 5 per cent. of Opium.

PULVIS OPII COMPOSITUS.

Compound Powder of Opium.

	IMPERIAL	METRIC
Opium, in powder	1½ ounces	30 grammes
Black Pepper, in powder	2 ounces	40 grammes
Ginger, in powder	5 ounces	100 grammes
Caraway Fruit, in powder	6 ounces	120 grammes
Tragacanth, in powder	½ ounce	10 grammes

Mix.

Dose.—2 to 10 grains.

This Powder contains 10 per cent. of Opium.

PULVIS RHEI COMPOSITUS.

Compound Powder of Rhubarb.

Synonym.—Gregory's Powder.

	IMPERIAL	METRIC
Rhubarb Root, in powder	2 ounces	50 grammes
Light Magnesia	6 ounces	150 grammes
Ginger, in powder	1 ounce	25 grammes

Mix.

Dose.—20 to 60 grains.

If a less bulky powder be desired, Heavy Magnesia may be employed.

PULVIS SCAMMONII COMPOSITUS.

Compound Powder of Scammony.

	IMPERIAL	METRIC
Scammony Resin, in powder	4 ounces	100 grammes
Jalap, in powder	3 ounces	75 grammes
Ginger, in powder	1 ounce	25 grammes

Mix.

Dose.—10 to 20 grains.

PULVIS SODÆ TARTARATÆ EFFERVESCENS.

Effervescent Tartarated Soda Powder.[1]

	IMPERIAL		METRIC
Sodium Potassium Tartrate, in dry powder .	120 grains	.	7·77 grammes
Sodium Bicarbonate, in dry powder . .	40 grains	.	2·59 grammes
Mix. Wrap in blue paper.			
Tartaric Acid, in dry powder	38 grains	.	2·46 grammes
Wrap in white paper.			

Dose, for a draught.—The alkaline powder (in blue paper) dissolved in nearly half a pint of cold or warm water, and the acid powder (in white paper) then added.

PULVIS TRAGACANTHÆ COMPOSITUS.

Compound Powder of Tragacanth.

	IMPERIAL	METRIC
Tragacanth, in powder . .	1 ounce	25 grammes
Gum Acacia, in powder . .	1 ounce	25 grammes
Starch, in powder . . .	1 ounce	25 grammes
Refined Sugar, in powder .	3 ounces	75 grammes

Mix.

Dose.—20 to 60 grains.

PYRETHRI RADIX.

Pyrethrum Root.

The dried root of Anacyclus Pyrethrum, *DC.* [*Bentl. and Trim. Med. Pl.* vol. iii. plate 151].

Characters.—In unbranched pieces, usually varying from two to four inches (five to ten centimetres) in length, and half an inch (twelve millimetres) or more in thickness; nearly cylindrical, or frequently tapering towards both extremities, the crown often bearing a tuft of nearly colourless hairs. The outer surface is brown and longitudinally wrinkled. The fracture is short; the fractured surface shows the wood to be traversed by large medullary rays in which, as in the cortex, numerous dark resin-ducts are scattered. The Root has a distinct characteristic odour and pungent taste, exciting, when chewed, a copious flow of saliva.

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[1] Effervescent Tartarated Soda Powder is commonly known as Seidlitz Powder.

PYROXYLINUM.

Pyroxylin.

Appendix

	IMPERIAL	METRIC
Cotton . .	1 ounce . .	10 grammes
Sulphuric Acid .	5 fl. ounces .	50 cubic centimetres
Nitric Acid .	5 fl. ounces .	50 cubic centimetres
Distilled Water .	a sufficient quantity	

Mix the Acids in a porcelain mortar, immerse the Cotton in the mixture, and after it is thoroughly wetted by the Acids stir it for three minutes with a glass rod; wash the product with Distilled Water until free from acid; drain on filtering paper, and dry the Pyroxylin on a water-bath.

Tests.—Readily soluble in a mixture of equal volumes of *ether* and *alcohol* (90 per cent.). It leaves no residue after ignition (absence of mineral impurity).

QUASSIÆ LIGNUM.

Quassia Wood.

The wood of the trunk and branches of Picræna excelsa, *Lindl.* [*Bentl. and Trim. Med. Pl.* vol. i. plate 57].

Characters.—Quassia Wood is imported in logs of varying length, frequently exceeding six inches (fifteen centimetres) in diameter. The Wood is yellowish-white, tough and dense, but easily split. The longitudinal section exhibits elongated cells containing single crystals of calcium oxalate. The transverse section exhibits medullary rays, mostly two or three cells in width. The Wood is inodorous, but has an intense, purely bitter, taste.

QUILLAIÆ CORTEX.

Quillaia Bark.

Synonym.—Panama Bark.

The inner part of the bark of Quillaja saponaria, *Molina* [*Bot. Mag.* plate 7568].

Characters.—Quillaia Bark is usually imported in large flat pieces, about one-sixth of an inch (four millimetres) thick, and two feet (six decimetres) or more long, and four inches (ten centimetres) wide. The outer surface is brownish-white, or, where the outer bark has been imperfectly removed, reddish-brown or blackish-brown; the inner surface is smooth, and white or yellowish-white. The fracture is splintery; the fractured surface is laminated, and exhibits under a lens glistening prismatic crystals; the transverse section is marked with fine radial and tangential lines. The taste is astringent and acrid; the odour is not marked, but the powder is extremely irritating to the nostrils.

QUININÆ HYDROCHLORIDUM.

Quinine Hydrochloride.

~~Hydrochlorate of Quinine, Brit. Pharm. 1885.~~

The hydrochloride, $C_{20}H_{24}N_2O_2,HCl,2H_2O$, of an alkaloid obtained from the bark of various species of Cinchona and Remijia.

Characters and Tests.—In crystals resembling those of Quinine Sulphate, but generally somewhat larger. It is soluble in about 35 parts of cold *water*, in 3 parts of cold *alcohol* (90 per cent.), and very soluble in boiling *water* and *alcohol* (90 per cent.). It affords the reactions characteristic of hydrochlorides. It should yield only the slightest characteristic reactions with the tests for sulphates. When converted into quinine sulphate, by dissolving it together with an equal weight of *sodium sulphate* in ten times its weight of hot *water*, and setting the mixture aside at 60° F. (15·5° C.), it should respond to the characters and tests that are mentioned under 'Quininæ Sulphas.' Dried at a temperature of 212° F. (100° C.), it loses 9 per cent. of water.

Dose.—1 to 10 grains.

QUININÆ HYDROCHLORIDUM ACIDUM.

Acid Quinine Hydrochloride.

The acid hydrochloride, $C_{20}H_{24}N_2O_2,2HCl,3H_2O$, of an alkaloid obtained from the bark of various species of Cinchona and Remijia.

Characters and Tests.—A white crystalline powder soluble in less than its own weight of *water*, yielding a somewhat acid liquid. It affords the reactions characteristic of hydrochlorides. It should yield only the slightest characteristic reactions with the tests for sulphates. Each gramme, when dissolved in 20 cubic centimetres of *water*, should require for its complete neutralisation not more than 2·5 cubic centimetres of *volumetric solution of soda*. When converted into quinine sulphate, by dissolving it together with an equal weight of *sodium sulphate* in ten times its weight of hot *water*, exactly neutralising this liquid with *solution of ammonia*, and setting it aside at 60° F. (15·5° C.) to cool, it should respond to the characters and tests which are mentioned under 'Quininæ Sulphas.' Dried at a temperature of 212° F. (100° C.), it loses not more than 12 per cent. of water.

Dose.—1 to 10 grains.

QUININÆ SULPHAS.

Quinine Sulphate.

The sulphate, $\{(C_{20}H_{24}N_2O_2)_2,H_2SO_4\}_2,15H_2O$, of an alkaloid obtained from the bark of various species of Cinchona and Remijia.

Characters and Tests.—Filiform silky white crystals, of an intensely bitter taste. Soluble in about 800 parts of *water*, giving a solution which has a bluish fluorescence. Entirely soluble in *water* acidulated with a mineral acid. Aqueous solutions of quinine salts yield with *solution of ammonia* white precipitates, soluble in *ether* and in excess of the *solution of ammonia.* When such aqueous solutions are treated first with *solution of bromine* or *of chlorine* and afterwards with *solution of ammonia*, they become of an emerald-green colour, changing to red when mineral acids are added. Exposed to dry air, Quinine Sulphate effloresces until the 15 molecules of water have been reduced to 4. It affords the reactions characteristic of sulphates. 2·5 grammes of the freshly prepared salt should lose 0·38 gramme of water by drying at 212° F. (100° C.). Heated to redness with free access of air, it burns without leaving any residue (absence of mineral impurity).

Quinine Sulphate when tested by the following methods should not afford any appreciable reaction characteristic of cinchonine, quinidine, cupreine, or amorphous alkaloid, and should not yield more than a total of 3 per cent. of crystals of impure cinchonidine by the following test.

Test for Cinchonidine and Cinchonine.—Dissolve 4 grammes of the Quinine Sulphate in 120 cubic centimetres of boiling *water*. Cool the solution slowly to 122° F. (50° C.), with frequent stirring. Separate, by filtration, the purified quinine sulphate which has crystallised out. Concentrate the filtrate by evaporation until it is reduced to 10 cubic centimetres or less; transfer to a small stoppered flask, and, when cold, shake with 10 cubic centimetres of *ether* and half that amount of *solution of ammonia.* Set aside in a cool place for not less than 24 hours. Collect the crystals, which consist of cinchonidine and cinchonine combined with quinine, on a tared filter, wash with a little *ether*, dry at 212° F. (100° C.), and weigh. These should not amount to more than 0·12 gramme.

Test for Quinidine.—Dissolve 1 gramme of the Quinine Sulphate in 30 cubic centimetres of boiling *water*; cool, and filter. To the solution add *solution of potassium iodide* and a little *alcohol* (90 per cent.) to prevent the precipitation of amorphous hydriodides. Collect any separated quinidine hydriodide, wash with a little *water*, dry, and weigh. The weight represents about an equal weight of crystallised quinidine sulphate. None or only the slightest traces should be obtained.

Test for Cupreine.—Shake the recrystallised quinine sulphate, obtained in testing the original Quinine Sulphate for cinchonidine and cinchonine, with 25 cubic centimetres of *ether* and 6 cubic centimetres of *solution of ammonia*, and to this ethereal solution, separated, add the ethereal liquid and washings also obtained in testing the original sulphate for the two alkaloids just mentioned. Shake this ethereal liquid with 6 cubic centimetres of a 10 per cent. solution of *sodium hydroxide*, adding *water* if any solid matter should separate. Remove the ethereal solution. Wash the aqueous solution with more *ether*, and remove the ethereal washings. Add *diluted sulphuric acid* to the aqueous liquid heated to boiling, until exactly neutral. When cold, collect any crystallised sulphate of cupreine on a tared filter; dry, and weigh. None or only the slightest traces should be obtained.

Test for Cinchonine and Amorphous Alkaloids.—Dissolve 1 gramme of the Quinine Sulphate in 30 cubic centimetres of boiling *water*, add 1 gramme of *sodium potassium tartrate*. Allow to cool, with frequent stirring; filter. The solution when evaporated to small bulk should give little or no precipitate with *solution of ammonia*.

Dose.—1 to 10 grains.

RESINA.

Resin.

The residue left after the distillation of the oil of turpentine from the crude oleo-resin (turpentine) of various species of Pinus.

Characters and Tests.—Translucent, of a light amber colour, compact, brittle, pulverisable; fracture shining; odour and taste faintly terebinthinate. It is soluble in *alcohol* (90 per cent.), *ether*, *benzol*, and *carbon bisulphide*, is easily fusible, and burns with a dense yellow flame and much smoke, leaving no appreciable ash.

RHEI RADIX.

Rhubarb Root.

The erect rhizome or so-called root of Rheum palmatum, *Linn.*; Rheum officinale, *Baill.*; and probably other species [*Bentl. and Trim. Med. Pl.* vol. iii. plates 213 and 214]; collected in China and Thibet, deprived of more or less of its cortex, and dried.

Characters.—In cylindrical, barrel-shaped, conical, plano-convex, or irregularly formed pieces; the surface sometimes covered with a bright yellowish-brown powder; rounded or somewhat angular, usually smooth, and marked with reddish-brown or dark rusty-brown lines, intermixed in a yellowish-brown or greyish substance, and nearly always presenting small scattered starlike marks. Frequently the pieces are bored with a hole, which sometimes contains a fragment of cord used to suspend them while drying. The pieces are hard and compact; fracture uneven, presenting a marbled appearance, and in some cases a rhomboidal network of reddish lines. Odour characteristic, somewhat aromatic; taste bitter, feebly astringent; when chewed the Root is gritty between the teeth.

Dose.—3 to 10 grains, for repeated administration; for a single administration, 15 to 30 grains.

RHŒADOS PETALA.

Red-Poppy Petals.

The fresh petals of Papaver Rhœas, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. i. plate 19].

Characters.—The fresh petals are of a bright scarlet colour; they are transversely elliptical in outline, about two inches (five centimetres) broad, have a smooth lustrous surface and an entire margin. The odour is characteristic, and somewhat unpleasant; taste slightly bitter.

ROSÆ GALLICÆ PETALA.

Red-Rose Petals.

The fresh and dried unexpanded petals of Rosa gallica, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 104]. From cultivated plants.

Characters.—Usually in little cone-like masses, or sometimes separate and more or less crumpled. The petals are velvety, of a deep purplish-red colour, which passes into brownish-yellow towards the base, odour fragrant, especially developed in drying; taste somewhat bitter, feebly acid, and astringent.

SACCHARUM LACTIS.

Milk Sugar.

Synonym.—Lactose.

A crystallised sugar, $C_{12}H_{22}O_{11},H_2O$, obtained from the whey of milk.

Characters and Tests.—In crystals or in crystalline masses, greyish-white, hard, odourless, faintly sweet. Soluble in 7 parts of cold *water*, and in about 1 part of boiling *water*. It should not leave more than 0·25 per cent. of ash when incinerated with free access of air. 1 gramme dissolved in 10 cubic centimetres of *water* gives a red colour with *solution of phenol-phthalein* after the addition of three drops of the *volumetric solution of sodium hydroxide* (limit of lactic acid).

SACCHARUM PURIFICATUM.

Refined Sugar.

Synonym.—Sucrose.

A crystallised sugar, $C_{12}H_{22}O_{11}$, obtained from the juice of the sugar-cane.

Characters and Tests.—Colourless and inodorous separate crystals. Readily and completely soluble in half its weight of *water*, forming a clear bright syrup. When the syrup is heated to about 180° F. (82·2° C.) with *solution of potassio-cupric tartrate* or with *solution of copper sulphate* and excess of *solution of potassium hydroxide*, there should not result more than a trace of a red or yellowish precipitate (absence of glucose). Refined Sugar should yield no reaction with the tests for calcium, chlorides, and sulphates.

SALICINUM.

Salicin.

A crystalline glucoside, $C_6H_{11}O_5.O.C_6H_4.CH_2OH$, obtainable from the bark of various species of Salix, and of Populus.

Characters and Tests.—Colourless shining trimetric tabular crystals, with a very bitter taste. Soluble in 28 parts of cold *water* or 60 parts of *alcohol* (90 per cent.); insoluble in *ether*. Coloured red by *sulphuric acid*. A small quantity heated with a little *potassium bichromate*, a few drops of *sulphuric acid*, and some *water*, yields salicylic aldehyde, recognisable by its odour of meadow-sweet. The crystals melt when heated, and evolve salicylic aldehyde. On heating to redness in air they leave no residue (absence of mineral impurity).

Dose.—5 to 20 grains.

SALOL.

Salol.

Salol, or phenyl salicylate, $C_6H_4{\cdot}OH{\cdot}COO{\cdot}C_6H_5$, is prepared by the interaction of salicylic acid and phenol, or of their sodium salts with phosphoryl chloride or carbonyl chloride.

Characters and Tests.—Colourless crystals having a faint aromatic odour and very little taste. Almost insoluble in *water*, soluble in 10 parts of cold *alcohol* (90 per cent.), very soluble in boiling *alcohol* (90 per cent.), also soluble in one third part of *ether* or *chloroform*, and in fixed and volatile oils. Melting point 107·6° to 109·4° F. (42° to 43° C.). An alcoholic solution gives a white precipitate with *solution of bromine*.

A violet coloration is produced on adding a few drops of dilute *test-solution of ferric chloride* to the alcoholic solution. On melting together Salol and *sodium hydroxide,* and then acidulating with *hydrochloric acid,* a white precipitate is produced and phenol is evolved. *Water* which has been shaken with Salol should not be affected by *test-solution of ferric chloride* (absence of free salicylic acid) and should yield no reaction with the tests for sulphates or chlorides. The alcoholic solution of Salol should be neutral to *litmus.*

Dose.—5 to 15 grains.

SAMBUCI FLORES.

Elder Flowers.

The flowers of Sambucus nigra, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 137], separated from the stalks.

Characters.—Elder Flowers are small; calyx superior, five-toothed; corolla flat, rotate, deeply five-lobed, creamy-white, with five stamens inserted in the tube; anthers yellow. They have a slightly bitter taste, and a sweet, faint, not altogether agreeable odour.

SANTONINUM.

Santonin.

A crystalline principle, $C_{15}H_{18}O_3$, prepared from santonica, the dried unexpanded flower-heads or capitula of Artemisia maritima, *var.* Stechmanniana, *Besser* [*Bentl. and Trim. Med. Pl.* vol. iii. pl. 157].

Characters and Tests.—Colourless flat rhombic prisms, feebly bitter, fusible and volatile when gently heated. Scarcely soluble in cold and sparingly in boiling *water*; soluble in 4 parts of *chloroform,* in 40 parts of cold and in 3 parts of boiling *alcohol* (90 per cent.). Sunlight renders it yellow. Added to warm *alcoholic solution of potassium hydroxide,* it yields a violet-red colour. It is not dissolved by diluted mineral acids. Heated to redness, with free access of air, it burns without leaving any residue (absence of mineral impurity).

Dose.—2 to 5 grains.

SAPO ANIMALIS.

Curd Soap.

Soap made with sodium hydroxide and a purified animal fat consisting principally of stearin; containing about thirty per cent. of water.

Characters and Tests.—White or with a very light greyish tint; dry; nearly inodorous; becomes horny and pulverisable when kept in dry warm air. Easily moulded when heated. Soluble in *alcohol* (90 per cent.), especially on warming. Sparingly soluble in cold *water*; soluble in hot *water*. 5 grammes of the dried and powdered soap, digested in boiling *alcohol* (90 per cent.), filtered while hot, and the filter washed thoroughly with more of the boiling *alcohol*, yield a filtrate which should not afford a red or pink coloration with *solution of phenol-phthalein* (limit of alkaline hydroxide); and the filter, when washed with hot water, will yield a solution which, on adding *solution of phenol-phthalein*, should not require more than 3 cubic centimetres of *decinormal volumetric solution of sulphuric acid* to discharge the resulting red colour (limit of alkaline carbonate). It does not impart a greasy stain to white unglazed paper (absence of free oil and fat). Incinerated it yields an ash which does not deliquesce (absence of potassium soap). It should lose about 30 per cent. of moisture when dried at 230° F. (110° C.).

SAPO DURUS.

Hard Soap.

Soap made with sodium hydroxide and olive oil; containing about thirty per cent. of water.

Characters and Tests.—Greyish-white, dry, inodorous; becomes horny and pulverisable when kept in dry warm air. Easily moulded when heated. Soluble in *alcohol* (90 per cent.), especially on warming. Soluble in 20 parts of cold *water*, and in 1½ parts of hot *water*. It should not contain more alkaline hydroxide or carbonate than is allowed under 'Sapo

Animalis.' It does not impart a greasy stain to white unglazed paper (absence of free oil). Incinerated it yields an ash which does not deliquesce (absence of potassium soap). It should lose about 30 per cent. of moisture when dried at 230° F. (110° C.).

SAPO MOLLIS.

Soft Soap.

Soap made with potassium hydroxide and olive oil.

Characters and Tests.—Yellowish-white, sometimes yellowish-green, almost inodorous, of an unctuous consistence. Readily soluble in *alcohol* (90 per cent.), especially on warming, the liquid, on filtration, yielding not more than 3 per cent. of residue (limit of potassium carbonate, insoluble soaps, &c.). It should not contain more alkaline hydroxide or carbonate than is allowed under 'Sapo Animalis.' It does not impart an oily stain to paper (absence of free oil). Incinerated it yields an ash which is very deliquescent, and which should afford no reaction with the tests for copper.

SARSÆ RADIX.

Sarsaparilla.

The dried root of Smilax ornata, *Hook. f.* [*Bot. Mag.* tab. 7054]. Imported from Costa Rica and commonly known as Jamaica sarsaparilla.

Characters.—Very long, nearly cylindrical, tough, flexible roots, of a greyish-brown or dark reddish-brown colour, folded together and bound with a root of the same plant into bundles of about eighteen inches (half a metre) in length, and four or five inches (ten to twelve and a half centimetres) in diameter. The roots are usually three-sixteenths of an inch (five millimetres) in thickness, are deeply wrinkled longitudinally, and provided with numerous rootlets. The transverse section usually exhibits a reddish-brown cortex and yellowish-white wood. The cells of the endodermis are nearly square in transverse section, and uniformly thickened. Sarsaparilla has no odour, and only a slightly bitter taste.

SASSAFRAS RADIX.

Sassafras Root.

The dried root of Sassafras officinale, *T. Nees and Eberm.* [*Bentl. and Trim. Med. Pl.* vol. iii. plate 220].

Characters.—In large branched pieces more or less covered with bark. Bark rough and greyish-brown, or rusty-brown, externally; internally smooth, glistening, and rusty-brown, with an agreeable aromatic odour, and a peculiar aromatic somewhat astringent taste. Wood soft, light in weight, greyish-yellow or greyish-red, with taste and odour similar to those of the bark, but more feeble.

SCAMMONIÆ RADIX.

Scammony Root.

The dried root of Convolvulus Scammonia, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. iii. plate 187].

Characters and Tests.—Brownish-grey or yellowish-grey, tapering or nearly cylindrical roots, varying usually from one to three inches (two and a half to seven and a half centimetres) or more in diameter. The Root is frequently contorted and the surface longitudinally furrowed. It is enlarged at the crown, and bears the remains of slender aerial stems. The fracture is very coarsely fibrous; internally the colour is light or dark grey. The section exhibits an abnormal wood, consisting of numerous irregularly arranged wood bundles; and, when examined under the microscope, appears beset with starch grains of characteristic shape, and, especially in the cortical region, with resin-cells. Odour characteristic; taste at first somewhat sweet, afterwards slightly acrid. It yields to *alcohol* (90 per cent.) a resin which should have the properties of Scammony Resin.

SCAMMONIÆ RESINA.

Scammony Resin.

	IMPERIAL	METRIC
Scammony Root, in coarse powder	8 ounces	150 grammes
Alcohol (90 per cent.)	a sufficient quantity	
Distilled Water	a sufficient quantity	

Exhaust the Scammony Root with the Alcohol by percolation; place the resulting tincture in a still; recover the greater part of the alcohol; slowly pour the liquid which remains after the distillation of the tincture into three times its volume of the Distilled Water, constantly stirring; allow the mixture to stand for the resin to subside; then wash the resin on a filter with boiling Distilled Water and dry it on a water-bath.

Characters and Tests.—In brownish translucent pieces, brittle, resinous in fracture, and of a sweet fragrant odour. It does not, alone, form an emulsion with water. Its solution in *alcohol* does not give a blue colour with *test-solution of ferric chloride*, or with *solution of hydrogen peroxide* (absence of guaiacum resin). *Ether* dissolves it almost entirely (distinction from jalap resin).

Dose.—3 to 8 grains.

SCAMMONIUM.

Scammony.

A gum-resin obtained by incision from the living root of Convolvulus Scammonia, *Linn.* Known in commerce as virgin scammony.

Characters and Tests.—Scammony is usually imported in flattened cakes or irregular pieces of varying sizes. It is brown, dark grey, or nearly black externally, and often covered with a greyish-white powder. It is very brittle, and the freshly exposed surface is glossy, resinous, more or less porous, and of a uniform dark-brown or nearly black colour; in thin fragments the drug is brown and more or less translucent. It is easily reduced to an ash-grey powder, and forms an emulsion with *water*. It has a characteristic odour and acrid taste. It should afford only the slightest reactions with the tests for starch, and should yield at least 70 per cent. of resin soluble in *ether*, and not more than 3 per cent. of ash on incineration. An alcoholic solution should not afford a blue colour with *test-solution of ferric chloride* (absence of guaiacum resin).

Dose.—5 to 10 grains.

SCILLA.

Squill.

The bulb of Urginea Scilla, *Steinh.* [*Bentl. and Trim. Med. Pl.* vol. iv. plate 281]; divested of its dry membranous outer scales, cut into slices, and dried.

Characters.—The slices of the inner scales usually present the form of curved strips, frequently tapering towards both ends; they are yellowish-white or somewhat pinkish, from about one to two inches (two and a half to five centimetres) long, somewhat translucent, brittle and easily pulverisable when quite dry, but tough and flexible when moist. Inodorous, disagreeably bitter.

Dose.—1 to 3 grains.

SCOPARII CACUMINA.

Broom Tops.

The fresh and the dried tops of Cytisus scoparius, *Link.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 70].

Characters.—The stem is dark green, with long, straight, slender, alternate branches; the latter, like the upper part of the stem, are winged, tough, flexible, and glabrous. The leaves, when present, are small, sessile, and simple above, stalked and trifoliate below. The taste is bitter and nauseous; the odour of the fresh Tops, especially when bruised, is characteristic, but when dry the drug is almost odourless.

SENEGÆ RADIX.

Senega Root.

The dried root of Polygala Senega, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. i. plate 29].

Characters.—Greyish or brownish-yellow slender roots usually varying from two to four inches (five to ten centimetres) in length, enlarged at the top into a knotty crown which bears the bases of numerous slender aerial stems. The roots are frequently curved or contorted, sparingly branched, keeled, longitudinally wrinkled, and sometimes transversely wrinkled. They break with a short fracture. A section exhibits a horny translucent cortex free from starch grains, and a white, frequently irregularly developed, wood. The Root has a distinctive odour; the taste is at first somewhat sweet, but afterwards acrid.

SENNA ALEXANDRINA.

Alexandrian Senna.

The dried leaflets of Cassia acutifolia, *Delile* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 90].

Characters.—Pale greyish-green, thin, brittle leaflets, usually varying from three-quarters to one inch and a quarter (twenty to thirty-two millimetres) in length. They are mostly lanceolate, sometimes oval-lanceolate, in outline, acute, entire, and unequal at the base, the greatest diameter being frequently below the middle of the leaflet. The surface is usually very finely pubescent, and the veins on the under surface are distinct. The epidermis bears one-celled, thick-walled hairs. The odour is faint but characteristic; the taste mucilaginous and somewhat unpleasant.

SENNA INDICA.

East Indian Senna.

Synonym.—Tinnivelly Senna.

The dried leaflets of Cassia angustifolia, *Vahl* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 91]. From plants cultivated in Southern India.

Characters.—Usually varying from one to two inches (two and a half to five centimetres) in length, lanceolate, acute, the greatest diameter being usually near the middle of the leaflet; unequal at the base, thin, entire, yellowish-green and smooth above, somewhat duller beneath, and glabrous or slightly pubescent. In odour and taste very similar to Alexandrian Senna.

When Senna is ordered in the Pharmacopœia, either East Indian Senna or Alexandrian Senna may be used.

SERPENTARIÆ RHIZOMA.

Serpentary Rhizome.

The dried rhizome and roots of Aristolochia Serpentaria, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. iv. plate 246], or of Aristolochia reticulata, *Nutt.*

Characters.—The rhizome of Aristolochia Serpentaria is tortuous and slender; about one inch (two and a half centimetres) in length and one-eighth of an inch (three millimetres) in diameter; bears on its upper surface the remains of aerial stems, and on its under surface numerous wiry interlacing roots, often about three inches (seven and a half centimetres) in length. Both rhizome and roots are dull yellowish-brown in colour, have a characteristic camphoraceous odour, and a strong aromatic bitter taste.

The rhizome and roots of Aristolochia reticulata resemble the foregoing, but are longer and thicker, and the roots are straighter than those of Aristolochia Serpentaria.

SEVUM PRÆPARATUM.

Prepared Suet.

The internal fat of the abdomen of the sheep, Ovis Aries, *Linn.*, purified by melting and straining.

Characters and Tests.—White, smooth, almost odourless; melting point between 112° and 120° F. (44·4° and 48·9° C.); commences to re-solidify at about 100° F. (37·8° C.) Freely soluble in *petroleum spirit*, slowly soluble in *benzol*, insoluble in cold *alcohol* (90 per cent.), slightly soluble in *ether* or boiling *alcohol* (90 per cent.).

SINAPIS.

Mustard.

The dried ripe seeds of Brassica nigra, *Koch*, and Brassica alba, *Boiss.*, powdered and mixed.

Characters and Test.—A greenish-yellow powder with a bitter pungent taste, inodorous when dry, but exhaling when moist a characteristic pungent odour. A cooled decoction is not rendered brown by a solution of *boric acid* (absence of turmeric), and should yield no characteristic reaction with the tests for starch.

SINAPIS ALBÆ SEMINA.

White Mustard Seed.

The dried ripe seeds of Brassica alba, *Boiss.* [*Bentl. and Trim. Med. Pl.* vol. i. plate 23].

Characters.—The seeds are about one-twelfth of an inch (two millimetres) in diameter and one-tenth of a grain (six and a half milligrammes) in weight, spheroidal, of a pale yellow colour, with a very finely pitted and reticulated testa. Externally they are hard, internally yellow and oily. Inodorous when entire or powdered; almost inodorous when triturated with *water*. In taste less pungent than Black Mustard Seeds.

SINAPIS NIGRÆ SEMINA.

Black Mustard Seed.

The dried ripe seeds of Brassica nigra, *Koch* [*Bentl. and Trim. Med. Pl.* vol. i. plate 22].

Characters.—The seeds are about one twenty-fifth of an inch (one millimetre) in diameter and one-fiftieth of a grain (one and a third milligramme) in weight; spherical or slightly ovoid in form. Colour dark reddish-brown or greyish-brown. Testa hard and minutely pitted; interior yellowish-green and oily. When entire or when powdered they are inodorous, but when triturated with *water* they yield a strong pungent odour. Taste somewhat bitter at first, followed immediately by extreme pungency.

SODA TARTARATA.

Sodium Potassium Tartrate.

Synonyms.—Tartarated Soda; Tartrate of Potassium and Sodium; Rochelle Salt.

Sodium Potassium Tartrate, $(CHOH)_2COONa\cdot COOK, 4H_2O$, is prepared by neutralising Acid Potassium Tartrate with Sodium Carbonate.

Characters and Tests.—Trimetric prisms with hemihedral facets; it is entirely soluble in cold *water*; and has a saline taste. It affords the reactions characteristic of potassium, of sodium, and of tartrates. Each gramme, heated to redness till gases cease to be evolved, should leave an alkaline residue, which when treated with *water*, filtered, and well washed, yields a clear solution requiring for exact neutralisation at least 7 cubic centimetres of the *volumetric solution of sulphuric acid.*

Dose.—120 to 240 grains.

SODII ARSENAS.

Sodium Arsenate.

Arseniate of Sodium (hydrous), Brit. Pharm. 1885.

The anhydrous salt, di-sodium hydrogen arsenate, Na_2HAsO_4, obtained by exposing to a temperature of 300° F. (148·9° C.) crystallised sodium arsenate, which may be prepared by treating with water the product of the fusion of arsenious anhydride with sodium nitrate and sodium carbonate.

Characters and Tests.—A white powder, soluble in 6 parts of *water*, and yielding an alkaline solution. It is only slightly soluble in cold or boiling *alcohol* (90 per cent.). It affords the reactions characteristic of sodium and of arsenates. A solution of 1 gramme of Sodium Arsenate with 1 of *glacial acetic acid*, in 50 cubic centimetres of *water*, should require

2·03 grammes of *lead acetate* for complete precipitation. It should yield no characteristic reaction with the tests for lead, copper, iron, aluminium, calcium, magnesium, potassium, ammonium, carbonates, chlorides, nitrates, or sulphates. It should not lose weight on being heated to 300° F. (148·9° C.) (absence of hydrous sodium arsenate).

Dose.—$\frac{1}{40}$ to $\frac{1}{10}$ grain.

SODII BENZOAS.

Sodium Benzoate.

Sodium Benzoate, C_6H_5COONa, may be obtained by neutralising benzoic acid with sodium carbonate.

Characters and Tests.—A white somewhat crystalline or amorphous powder, inodorous or having a faint odour of benzoin, and an unpleasant sweetish saline taste. Soluble in less than 2 parts of cold *water*, in 24 parts of cold *alcohol* (90 per cent.), and in 12 of boiling *alcohol* (90 per cent.). An aqueous solution has a faintly alkaline reaction, and gives a yellowish or flesh-coloured precipitate when mixed with *test-solution of ferric chloride.* A strong aqueous solution, to which a little *diluted hydrochloric acid* is added, affords a crystalline precipitate of benzoic acid. Each gramme of the salt, when heated, melts, emitting an odour of benzoin, then chars, and finally leaves a residue which affords the reactions characteristic of sodium, and, when dissolved in *water*, requires for neutralisation from 6·8 to 6·9 cubic centimetres of the *volumetric solution of sulphuric acid.* It should yield no characteristic reaction with the tests for lead, copper, iron, calcium, magnesium, potassium, ammonium, or carbonates, and only the slightest reactions with the tests for chlorides or sulphates.

Dose.—5 to 30 grains.

SODII BICARBONAS.

Sodium Bicarbonate.

Sodium Bicarbonate, $NaHCO_3$, may be obtained by exposing crystals of sodium carbonate to carbonic anhydride, or by the interaction of sodium chloride and ammonium bicarbonate.

Characters and Tests.—In powder or small opaque monoclinic crystals, white, of a saline taste, soluble in 11 parts of cold *water.* It affords the reactions characteristic of sodium and of bicarbonates. Each gramme should require for neutralisation from 11·8 to 11·9 cubic centimetres of the *volumetric solution of sulphuric acid.* It should yield no characteristic reaction with the tests for lead, copper, iron, aluminium, calcium, magnesium, potassium, sulphites, or thiosulphates, and only the slightest characteristic reactions with the tests for chlorides, sulphates, or ammonium. A solution of the salt in cold *water* gives a whitish precipitate, becoming brownish-red on standing, with *test-solution of mercuric chloride* (distinction from sodium carbonate). The addition of *test-solution of ferric chloride* to the aqueous solution acidulated with *hydrochloric acid* should cause no red coloration (absence of thiocyanates).

20 parts of Sodium Bicarbonate are neutralised by 16·7 parts of Citric Acid, and by 17·8 parts of Tartaric Acid.

Dose.—5 to 30 grains.

SODII BROMIDUM.
Sodium Bromide.

Sodium Bromide, NaBr, may be prepared in the same manner as Potassium Bromide, sodium hydroxide being used in place of potassium hydroxide.

Characters and Tests.—In small white cubic crystals, somewhat deliquescent, inodorous, with a saline taste, soluble in less than 2 parts of *water,* and in 16 parts of *alcohol* (90 per cent.). It affords the reactions characteristic of sodium and of bromides. Each gramme of the dry salt dissolved in *water* should require for complete precipitation not less than 95·8 nor more than 97·8 cubic centimetres of the *volumetric solution of silver nitrate.* It should yield no characteristic reaction with the tests for lead, copper, arsenium, iron, aluminium, zinc, calcium, magnesium, potassium, ammonium, carbonates, cyanides, bromates, or iodates, and only the slightest reactions with the tests for chlorides, iodides, or sulphates. *Test-solution of ferric chloride* should not cause a red coloration in the aqueous solution (absence of thiocyanates).

Dose.—5 to 30 grains.

SODII CARBONAS.

Sodium Carbonate.

Sodium Carbonate, $Na_2CO_3,10H_2O$, may be obtained from sodium chloride, either by interaction with ammonium bicarbonate and subsequent ignition, or by its conversion into sodium sulphate and the action of heat on a mixture of the sulphate with carbon and calcium carbonate.

Characters and Tests.—In transparent colourless rhombic crystals, efflorescent, with a harsh taste and strong alkaline reaction, soluble in 2 parts of cold *water*. It should respond to the qualitative tests enumerated under 'Sodii Bicarbonas,' except that its aqueous solution gives an immediate brownish-red precipitate with *test-solution of mercuric chloride*. When heated it liquefies and then dries up, losing 62·93 per cent. of its weight. Each gramme of the crystallised salt should require for neutralisation at least 6·9 cubic centimetres of the *volumetric solution of sulphuric acid*.

20 parts of Sodium Carbonate are neutralised by 9·8 parts of Citric Acid, and by 10·5 parts of Tartaric Acid.

Dose.—5 to 30 grains.

SODII CARBONAS EXSICCATUS.

~~Exsiccated~~ Sodium Carbonate.

Dried Carbonate of Sodium, Brit. Pharm. 1885.

Nearly anhydrous sodium carbonate, Na_2CO_3, which is obtained by heating Sodium Carbonate until it loses nearly 63 per cent. of its weight.

Tests.—It affords the reactions characteristic of sodium and of carbonates. It should not yield more than traces of water when strongly heated.

Dose.—3 to 10 grains.

SODII CHLORIDUM.

Sodium Chloride.

Sodium Chloride, NaCl, is common salt, purified.

Characters and Tests.—In small white crystalline grains or transparent cubic crystals, free from moisture, with a purely saline taste, soluble in less than 3 parts of *water*. It affords the reactions characteristic of sodium and of chlorides. It should yield no characteristic reaction with the tests for potassium, bromides, or iodides, and only slight reactions with the tests for calcium, magnesium, or sulphates.

SODII CITRO-TARTRAS EFFERVESCENS.

Effervescent Sodium Citro-tartrate.

	IMPERIAL	METRIC
Sodium Bicarbonate, in powder	51 ounces	510 grammes
Tartaric Acid, in powder . .	27 ounces	270 grammes
Citric Acid, in powder . .	18 ounces	180 grammes
Refined Sugar, in powder . .	15 ounces	150 grammes

Mix the powders thoroughly; place the mixture in a dish or pan of suitable form heated to between 200° and 220° F. (93·3° and 104·4° C.). When the mixture, by aid of careful manipulation, has assumed a granular character, separate it into granules of uniform and convenient size by means of suitable sieves. Dry the granules at a temperature not exceeding 130° F. (54·4° C.). The product should weigh about 100 ounces (or 1000 grammes).

Dose.—60 to 120 grains.

SODII HYPOPHOSPHIS.

Sodium Hypophosphite.

Sodium Hypophosphite, $NaPH_2O_2$, is obtained by the interaction of sodium carbonate and calcium hypophosphite.

Characters and Tests.—A white granular salt, having a bitter nauseous taste. It is deliquescent, soluble in its own weight of *water* and in 30 parts of *alcohol* (90 per cent.), but insoluble in *ether*. When heated in air it yields spontaneously inflammable hydrogen phosphide and hydrogen. It colours flame strongly yellow. It is rapidly attacked by oxidising agents. Its solution yields with a warm solution of *copper sulphate* a red precipitate of cuprous hydride, which, on boiling, evolves hydrogen. 0·5 gramme boiled for ten minutes with 25 cubic centimetres of *water* and 1·15 grammes of *potassium permanganate*, and filtered, should afford a nearly colourless solution. It should yield no characteristic reaction with the tests for lead, copper, iron, aluminium, zinc, calcium, magnesium, potassium, ammonium, chlorides, or sulphates, only the slightest reactions with the tests for carbonates, and its solution should give little or no precipitate with *solution of lead acetate* (limit of phosphates and phosphites).

Dose.—3 to 10 grains.

SODII IODIDUM.

Sodium Iodide.

Sodium Iodide, NaI, may be prepared from iodine and sodium hydroxide by a process similar to that employed in making Potassium Bromide; the salt being crystallised at a temperature of not less than 68° F. (20° C.).

Characters and Tests.—A dry white crystalline deliquescent powder, having a saline and somewhat bitter taste, readily soluble in less than its weight of *water* and in 3 parts of *alcohol* (90 per cent.). It affords the reactions characteristic of sodium and of iodides. Each gramme should not lose more than 0·05 gramme of water when dried at 248° F. (120° C.); and each gramme of this dried salt, when dissolved in *water*, should require for complete precipitation not less than 66·5 cubic centimetres of the *volumetric solution of silver nitrate*. It should yield no characteristic reaction with the tests for lead, copper, arsenium, iron, aluminium, calcium, magnesium, potassium, ammonium, bromates, cyanides, carbonates, or iodates, and only the slightest reactions with the tests for bromides, chlorides, or sulphates.

Dose.—5 to 20 grains.

SODII NITRIS.
Sodium Nitrite.

A salt, $NaNO_2$, obtained by fusing sodium nitrate with metallic lead.

Characters and Tests.—A white deliquescent crystalline powder, very soluble in *water.* The solution is neutral or slightly alkaline, and affords reactions characteristic of sodium salts and of nitrites. 0·1 gramme dissolved in *water,* introduced into a brine-charged nitrometer, and tested with *potassium iodide* and *diluted sulphuric acid,* should liberate at the ordinary temperature (60° F. or 15·5° C.) and pressure (30 inches or 760 millimetres of mercury) not less than 32·5 cubic centimetres of nitric oxide, corresponding to not less than 95 per cent. of sodium nitrite, the gas being almost completely absorbed by strong solution of *ferrous sulphate.* The aqueous solution of the salt should not give more than the slightest traces of a precipitate on the addition of *diluted sulphuric acid* (absence of lead).

Dose.—1 to 2 grains.

SODII PHOSPHAS.
Sodium Phosphate.

This salt, di-sodium hydrogen phosphate, $Na_2HPO_4,12H_2O$, may be obtained by the interaction of sodium carbonate and the solution of acid calcium phosphate produced on mixing bone-ash and sulphuric acid.

Characters and Tests.—In transparent colourless rhombic prisms, terminated by four converging planes, efflorescent, having an alkaline reaction and a saline taste. It is soluble in 6 parts of cold *water.* It affords the reactions characteristic of sodium and of phosphates. Heated to dull redness, it loses 62·84 per cent. of its weight. It should yield no characteristic reaction with the tests for potassium, ammonium, or carbonates, and only the slightest reactions with the tests for sulphates or for chlorides.

Dose.—30 to 120 grains, for repeated administration; for a single administration, $\frac{1}{4}$ to $\frac{1}{2}$ an ounce.

SODII PHOSPHAS EFFERVESCENS.

Effervescent Sodium Phosphate.

	IMPERIAL	METRIC
Sodium Phosphate, in crystals .	50 ounces	500 grammes
Sodium Bicarbonate, in powder	50 ounces	500 grammes
Tartaric Acid, in powder . .	27 ounces	270 grammes
Citric Acid, in powder . .	18 ounces	180 grammes

Dry the Sodium Phosphate until it has lost sixty per cent. of its weight; powder the product and mix it with the other ingredients. Place the whole in a dish or pan of suitable form heated to between 200° and 220° F. (93·3° and 104·4° C.). When the mixture, by aid of careful manipulation, has assumed a granular character, separate it into granules of uniform and convenient size by means of suitable sieves. Dry the granules at a temperature not exceeding 130° F. (54·4° C.). The product should weigh about 100 ounces (1000 grammes).

Dose.—60 to 120 grains, for repeated administration; for a single administration, $\frac{1}{4}$ to $\frac{1}{2}$ an ounce.

SODII SALICYLAS.

Sodium Salicylate.

Sodium Salicylate, $(C_6H_4{\cdot}OH{\cdot}COONa)_2,H_2O$, may be obtained by the interaction of salicylic acid and sodium carbonate or sodium hydroxide.

Characters and Tests.—In small colourless scales, or in tabular crystals with a pearly lustre. The salt has a sweetish and somewhat unpleasant saline taste, and no odour. Soluble in less than its own weight of cold *water*, and in 6 parts of *alcohol* (90 per cent.). The solutions are neutral or faintly acid to *litmus*. When heated to redness, the salt evolves inflammable vapours, and a white residue remains which effervesces with acids, and imparts an intense yellow colour to flame. *Test-solution of ferric chloride* colours a concentrated solution reddish-brown, and a dilute solution violet. A solution containing not less than 1 per cent. affords a yellowish-brown precipitate with *solution of uranium nitrate* (distinction from carbolates and sulphocarbolates). 50 to 100 grammes kept in a closed vessel for several days should not evolve the faintest smell of phenol. If the aqueous solution be acidulated with *nitric acid* and the precipitate be dissolved by a little *alcohol* (90 per cent.), the mixture affords not more than the slightest reactions with the tests for sulphates or for chlorides. It dissolves without coloration or effervescence in cold *sulphuric acid* (absence of organic impurities and of carbonates).

Dose.—10 to 30 grains.

SODII SULPHAS.

Sodium Sulphate.

Sodium Sulphate, $Na_2SO_4,10H_2O$, may be obtained by the interaction of sodium chloride and other sodium salts with sulphuric acid.

Characters and Tests.—In transparent monoclinic prisms; has a bitter saline taste; effloresces on exposure to the air; is soluble in less than half its weight of *water* at temperatures from 77° to 86° F. (25° to 30° C.). Heated to boiling this solution deposits crystals of the anhydrous salt. Insoluble in *alcohol* (90 per cent.). Exposed to heat in a porcelain crucible it loses 55·9 per cent. of water. It affords the reactions characteristic of sodium and of sulphates. Each gramme dissolved in *water* and acidulated with *hydrochloric acid* gives, by the addition of *solution of barium chloride*, a white precipitate, which, when it has been washed and dried, should weigh 0·725 gramme. It should yield no characteristic reaction with the tests for lead, iron, aluminium, calcium, magnesium, potassium, ammonium, or carbonates, and only the slightest reactions with the tests for chlorides.

Dose.—30 to 120 grains, for repeated administration; for a single administration, $\frac{1}{4}$ to $\frac{1}{2}$ an ounce.

SODII SULPHAS EFFERVESCENS.

Effervescent Sodium Sulphate.

	IMPERIAL	METRIC
Sodium Sulphate, in crystals .	50 ounces	500 grammes
Sodium Bicarbonate, in powder	50 ounces	500 grammes
Tartaric Acid, in powder . .	27 ounces	270 grammes
Citric Acid, in powder . .	18 ounces	180 grammes

Dry the Sodium Sulphate until it has lost fifty-six per cent. of its weight; powder the product and mix it with the other ingredients. Place the whole in a dish or pan of suitable form, heated to between 200° and 220° F. (93·3° and 104·4° C.). When the mixture, by aid of careful manipulation of the powder, begins to aggregate, stir it assiduously until it has assumed a granular character; then separate it into granules of uniform and convenient size, by means of suitable sieves. Dry the granules at a temperature not exceeding 130° F. (54·4° C.). The product should weigh about 100 ounces (1000 grammes).

Dose.—60 to 120 grains, for repeated administration; for a single administration, $\frac{1}{4}$ to $\frac{1}{2}$ an ounce.

SODII SULPHIS.

Sodium Sulphite.

Sodium Sulphite, $Na_2SO_3,7H_2O$, may be obtained by interaction of sulphurous acid and sodium carbonate.

Characters and Tests.—In colourless transparent monoclinic prisms, efflorescent in dry air, inodorous, with a saline and sulphurous taste. It is readily soluble in *water*, very sparingly in *alcohol* (90 per cent.). It affords the reactions characteristic of sodium and of sulphites. The aqueous solution has a neutral or faintly alkaline reaction, and if treated with *hydrochloric acid* evolves sulphurous anhydride, but does not become cloudy (absence of thiosulphate). Each gramme dissolved in 50 cubic centimetres of *water* should decolorise not less than 77·7 nor more than 81·7 cubic centimetres of the *volumetric solution of iodine*.

Dose.—5 to 20 grains.

SODII SULPHOCARBOLAS.

Sodium Sulphocarbolate.

Sodium Sulphocarbolate, or sodium phenol-para-sulphonate, $C_6H_4OH{\cdot}SO_2ONa,2H_2O$, may be obtained by dissolving phenol in excess of sulphuric acid, and converting the phenolsulphonic acid so obtained into a sodium salt.

Characters and Tests.—Colourless transparent rhombic prisms, inodorous or nearly so, with a saline and somewhat bitter taste. Soluble in 6 parts of *water*, and in 150 parts of *alcohol* (90 per cent.), the solutions being without action on *litmus*. On ignition it gives off phenol, and leaves a residue of sodium sulphate. It imparts an intense yellow colour to flame. The dilute aqueous solution is rendered violet by *test-solution of ferric chloride*, does not give a yellowish-brown precipitate with *solution of uranium nitrate* (distinction from salicylate), and should not at once be rendered turbid by *solution of barium chloride* (absence of sulphates).

Dose.—5 to 15 grains.

SODIUM.

Sodium.

The metal sodium as met with in commerce. It should be preserved in well-stoppered bottles under mineral naphtha.

Characters and Tests.—A soft metal, rapidly oxidising in the air, but showing a bright metallic surface when freshly cut. It violently attacks *water* or *alcohol* (90 per cent.), with evolution of hydrogen, little or no insoluble matter remaining. It imparts an intense yellow colour to flame. Each gramme very cautiously added to *water* affords a solution which should require for neutralisation at least 42·6 cubic centimetres of the *volumetric solution of sulphuric acid*.

SPIRITUS ÆTHERIS.

Spirit of Ether.

	IMPERIAL	METRIC
Ether . . .	10 fl. ounces	500 cubic centimetres
Alcohol (90 per cent.)	1 pint . .	1000 cubic centimetres

Mix.

Test.—Specific gravity 0·806 to 0·811.

Dose.—20 to 40 minims, for repeated administration; for a single administration, 60 to 90 minims.

SPIRITUS ÆTHERIS COMPOSITUS.

Compound Spirit of Ether.

Synonym.—Hoffmann's Anodyne.

	IMPERIAL	METRIC
Ether . . .	5½ fl. ounces	137·5 cubic centimetres
Alcohol (90 per cent.)	78 fl. ounces	1950 cubic centimetres
Sulphuric Acid .	36 fl. ounces	900 cubic centimetres
Distilled Water .	1½ fl. ounces	37·5 cubic centimetres
Sodium Bicarbonate .	a sufficient quantity	

Gradually mix the Sulphuric Acid with forty fluid ounces (or one thousand cubic centimetres) of the Alcohol; let the mixture stand for twenty-four hours. Then distil slowly until a thermometer, the bulb of which is within the liquid, indicates a temperature of 341° F. (171·6° C.). Pour the distillate into a separator, and, after separation is complete, remove the lower layer. Add the Distilled Water to the upper layer, and also, gradually, Sodium Bicarbonate, until, after agitation, the liquid is nearly neutral to *litmus paper*. Separate the ethereal liquid, and add to it the Ether and thirty-eight fluid ounces (or nine hundred and fifty cubic centimetres) of the Alcohol. Filter.

Characters and Tests.—A colourless mobile liquid with characteristic ethereal odour and taste. Specific gravity 0·808 to 0·812. It gives an opalescent solution when mixed with twice its volume of *water*. 2 or 3 cubic centimetres evaporated spontaneously on a watch-glass should not yield a residue having an unpleasant odour (absence of empyreumatic impurities).

Dose.—20 to 40 minims, for repeated administration; for a single administration, 60 to 90 minims.

SPIRITUS ÆTHERIS NITROSI.

Spirit of Nitrous Ether.

Synonym.—Sweet Spirit of Nitre.

An alcoholic solution containing ethyl nitrite, aldehyde, and other substances.

	IMPERIAL	METRIC
Nitric Acid .	3 fl. ounces .	150 cubic centimetres
Sulphuric Acid .	2 fl. ounces .	100 cubic centimetres
Copper . .	2 ounces .	100 grammes
Alcohol (90 per cent.) .	a sufficient quantity	

To one pint (or one thousand cubic centimetres) of the Alcohol add gradually the Sulphuric Acid, stirring them together; then stir in two and a half fluid ounces (or one hundred and twenty-five cubic centimetres) of the Nitric Acid; the mixture being made in a retort or flask, in which the copper has been placed, and to which a thermometer is fitted; attach to the retort or flask an efficient condenser and receiver, the latter containing twenty fluid ounces (or one thousand cubic centimetres) of the Alcohol, and, applying heat gently, distil at a temperature commencing at 170° F. (76·7° C.), and rising to 175 ° F. (79·4° C.), but not exceeding 180° F. (82·2° C.), until the volume of liquid in the receiver has been increased to thirty-two fluid ounces (or to sixteen hundred cubic centimetres), the receiver and the condenser being kept cool with ice-cold water. Then withdraw the source of heat, and having allowed the contents of the retort to cool, introduce the remaining half-ounce (or twenty-five cubic centimetres) of Nitric Acid, and resume the distillation as before, until the liquid in the receiver has been increased to thirty-four fluid ounces (or seventeen hundred cubic centimetres). Mix this liquid with one pint (or one thousand cubic centimetres) of the Alcohol, or with as much as will make the product contain two and a half per cent. of ethyl nitrite when tested as described in the following paragraph. Preserve the Spirit of Nitrous Ether in well-closed vessels; preferably in a cool dark place, and in small bottles.

Characters and Tests.—A limpid liquid, having a very faint yellowish tinge, inflammable, of a peculiar penetrating apple-like odour, and a characteristic taste. Specific gravity 0·838 to 0·842. When Spirit of Nitrous Ether is carefully poured on an acidulated strong solution of *ferrous sulphate* contained in a test-tube, a deep olive-brown coloration is produced at the surface of contact of the two liquids, widening as the tube is gently shaken. 10 cubic centimetres, mixed with 5 cubic centimetres of the *volumetric solution of sodium hydroxide* and 5 cubic centimetres of *water*, should assume a yellow colour, which should not become brown on standing 12 hours (limit of aldehyde). It should not effervesce, or only very feebly, when shaken with *sodium bicarbonate* (limit of acid). 1 volume agitated briskly at intervals during 5 minutes in a brine-charged nitrometer, with 1 volume of *solution of potassium iodide* and 1 volume of *diluted sulphuric acid*, should yield, at the normal temperature (60° F. or 15·5° C.) and pressure (30 inches or 760 millimetres of mercury), and when freshly prepared, at least 6¼, but not more than 7, volumes of nitric oxide gas, corresponding to at least 2½ parts by weight of ethyl nitrite in 100 parts by weight of the Spirit; and even after it has been kept for some time, and the vessel containing it has occasionally been opened, it should yield not much less than 5 times its volume of the gas, corresponding to nearly 2 per cent. by weight of ethyl nitrite or a minimum of 1¾ per cent.

Dose.—20 to 40 minims, for repeated administration; for a single administration, 60 to 90 minims.

SPIRITUS AMMONIÆ AROMATICUS.

Aromatic Spirit of Ammonia.

Synonyms.—Spiritus Ammoniæ Compositus; Spirit of Sal Volatile.

	IMPERIAL	METRIC
Ammonium Carbonate . . .	4 ounces . .	100 grammes
Strong Solution of Ammonia . .	8 fl. ounces . .	200 cubic centimetres
Oil of Nutmeg .	$4\frac{1}{2}$ fl. drachms .	14·1 cubic centimetres
Oil of Lemon .	$6\frac{1}{2}$ fl. drachms .	20·3 cubic centimetres
Alcohol (90 per cent.) . .	6 pints . .	3000 cubic centimetres
Distilled Water .	3 pints . .	1500 cubic centimetres

Place the Oil of Lemon, Oil of Nutmeg, and Alcohol with the Distilled Water in a retort; distil seven pints (or three thousand five hundred cubic centimetres); then distil and separately collect an additional nine fluid ounces (or two hundred and twenty-five cubic centimetres). Place the latter, together with the Ammonium Carbonate and the Strong Solution of Ammonia, in a bottle holding rather more than a pint (or rather more than half a litre); securely cork the bottle and gently warm it in a water-bath to 140° F. (60° C.), shaking from time to time until all the salt has dissolved. Filter the resulting solution when cold through cotton wool, and gradually mix the filtrate with the portion first distilled.

Characters and Tests.—A transparent liquid having a pungent ammoniacal odour and flavour; nearly colourless when first prepared, but liable to darken slightly. Specific gravity 0·888 to 0·893. 20 cubic centimetres require for neutralisation 25·5 cubic centimetres of the *volumetric solution of sulphuric acid*, corresponding to about 2·4 per cent. of ammonia (NH_3), or 2·16 grammes in 100 cubic centimetres. 20 cubic centimetres, after the addition of 16 cubic centimetres of *solution of barium chloride*, should yield a precipitate which becomes more copious on heating to 160° F. (71° C.), and after filtering, the filtrate should yield a further precipitate when more of the reagent is added and the liquid is again heated.

Dose.—20 to 40 minims, for repeated administration; for a single administration, 60 to 90 minims.

SPIRITUS AMMONIÆ FETIDUS.

Fetid Spirit of Ammonia.

	IMPERIAL	METRIC
Asafetida . .	$1\frac{1}{2}$ ounces .	75 grammes
Strong Solution of Ammonia	2 fl. ounces .	100 cubic centimetres
Alcohol (90 per cent.) .	a sufficient quantity	

Break the Asafetida into small pieces, and macerate it in a closed vessel in fifteen fluid ounces (or seven hundred and fifty cubic centimetres) of the Alcohol for twenty-four hours; distil until alcoholic vapours cease to be condensed; mix the distillate with the Strong Solution of Ammonia, and add sufficient Alcohol to make one pint (or one thousand cubic centimetres).

Test.—25 cubic centimetres should require for neutralisation at least 42·5 cubic centimetres of the *volumetric solution of sulphuric acid*, corresponding to at least 2·88 grammes of ammonia (NH_3) in 100 cubic centimetres.

Dose.—20 to 40 minims, for repeated administration; for a single administration, 60 to 90 minims.

SPIRITUS ANISI.

Spirit of Anise.

	IMPERIAL	METRIC
Oil of Anise	1 fl. ounce .	50 cubic centimetres
Alcohol (90 per cent.) .	a sufficient quantity	

To the Oil of Anise add enough of the Alcohol to form ten fluid ounces (or five hundred cubic centimetres) of the Spirit of Anise.

Dose.—5 to 20 minims.

This Spirit of Anise contains half the proportion of Oil of Anise present in the Essence of Anise of the British Pharmacopœia of 1885.

SPIRITUS ARMORACIÆ COMPOSITUS.

Compound Spirit of Horseradish.

	IMPERIAL		METRIC
Horseradish Root, scraped	5 ounces	.	125 grammes
Dried Bitter-Orange Peel, well bruised	5 ounces	.	125 grammes
Nutmeg, bruised	55 grains	.	3·15 grammes
Alcohol (90 per cent.)	$1\frac{1}{4}$ pints	.	625 cubic centimetres
Distilled Water	$1\frac{1}{2}$ pints	.	750 cubic centimetres

Mix, and distil two pints (or one thousand cubic centimetres).

Dose.—1 to 2 fluid drachms.

SPIRITUS CAJUPUTI.

Spirit of Cajuput.

	IMPERIAL		METRIC
Oil of Cajuput	1 fl. ounce	.	50 cubic centimetres
Alcohol (90 per cent.)	a sufficient quantity		

To the Oil of Cajuput add enough of the Alcohol to form ten fluid ounces (or five hundred cubic centimetres) of the Spirit of Cajuput.

Dose.—5 to 20 minims

This Spirit of Cajuput contains five times the proportion of Oil of Cajuput present in the Spirit of Cajuput of the British Pharmacopœia of 1885.

SPIRITUS CAMPHORÆ.

Spirit of Camphor.

	IMPERIAL		METRIC
Camphor	1 ounce	.	50 grammes
Alcohol (90 per cent.)	a sufficient quantity		

To the Camphor add enough of the Alcohol to form ten fluid ounces (or five hundred cubic centimetres) of the Spirit of Camphor.

Dose.—5 to 20 minims.

SPIRITUS CHLOROFORMI.

Spirit of Chloroform.

Synonyms.—Chloric Ether; ~~Spirit of Chloric Ether.~~

	IMPERIAL	METRIC
Chloroform .	1 fl. ounce .	50 cubic centimetres
Alcohol (90 per cent.) .	a sufficient quantity	

To the Chloroform add enough of the Alcohol to form one pint (or one thousand cubic centimetres) of the Spirit of Chloroform.

Dose.—5 to 20 minims, for repeated administration; for a single administration, 30 to 40 minims.

SPIRITUS CINNAMOMI.

Spirit of Cinnamon.

	IMPERIAL	METRIC
Oil of Cinnamon	1 fl. ounce .	50 cubic centimetres
Alcohol (90 per cent.)	a sufficient quantity	

To the Oil of Cinnamon add enough of the Alcohol to form ten fluid ounces (or five hundred cubic centimetres) of the Spirit of Cinnamon.

Dose.—5 to 20 minims.

This Spirit of Cinnamon contains five times the proportion of Oil of Cinnamon present in the Spirit of Cinnamon of the British Pharmacopœia of 1885.

SPIRITUS JUNIPERI.

Spirit of Juniper.

	IMPERIAL	METRIC
Oil of Juniper	1 fl. ounce .	50 cubic centimetres
Alcohol (90 per cent.)	a sufficient quantity	

To the Oil of Juniper add enough of the Alcohol to form one pint (or one thousand cubic centimetres) of the Spirit of Juniper. If the solution be not clear, agitate with a little *powdered talc*, and filter.

Dose.—20 to 60 minims.

This Spirit of Juniper contains two and a half times the proportion of Oil of Juniper present in the Spirit of Juniper of the British Pharmacopœia of 1885.

SPIRITUS LAVANDULÆ.

Spirit of Lavender.

	IMPERIAL	METRIC
Oil of Lavender .	1 fl. ounce	50 cubic centimetres
Alcohol (90 per cent.) .	a sufficient quantity	

To the Oil of Lavender add enough of the Alcohol to form ten fluid ounces (or five hundred cubic centimetres) of the Spirit of Lavender.

Dose.—5 to 20 minims.

This Spirit of Lavender contains five times the proportion of Oil of Lavender present in the Spirit of Lavender of the British Pharmacopœia of 1885.

SPIRITUS MENTHÆ PIPERITÆ.

Spirit of Peppermint.

	IMPERIAL	METRIC
Oil of Peppermint .	1 fl. ounce	50 cubic centimetres
Alcohol (90 per cent.)	a sufficient quantity	

To the Oil of Peppermint add enough of the Alcohol to form ten fluid ounces (or five hundred cubic centimetres) of the Spirit of Peppermint.

Dose.—5 to 20 minims.

This Spirit of Peppermint contains five times the proportion of Oil of Peppermint present in the Spirit of Peppermint, and half the proportion of Oil in the Essence of Peppermint, of the British Pharmacopœia of 1885.

SPIRITUS MYRISTICÆ.

Spirit of Nutmeg.

	IMPERIAL	METRIC
Oil of Nutmeg . .	1 fl. ounce	50 cubic centimetres
Alcohol (90 per cent.) .	a sufficient quantity	

To the Oil of Nutmeg add enough of the Alcohol to form ten fluid ounces (or five hundred cubic centimetres) of the Spirit of Nutmeg. If the solution be not clear, agitate with a little *powdered talc*, and filter.

Dose.—5 to 20 minims.

This Spirit of Nutmeg contains five times the proportion of Oil of Nutmeg present in the Spirit of Nutmeg of the British Pharmacopœia of 1885.

SPIRITUS RECTIFICATUS.

Alcohol (90 per cent.).

Synonym.—**Rectified Spirit.**

A liquid containing 90 parts by volume of ethyl hydroxide, C_2H_5OH, and 10 parts by volume of water; obtained by the distillation of fermented saccharine liquids.

Characters and Tests.—A colourless, transparent, very mobile and inflammable liquid, with a characteristic pleasant odour and a strong spirituous burning taste. Specific gravity 0·8340. It contains 85·65 per cent. by weight of ethyl hydroxide, C_2H_5OH, and 14·35 per cent. by weight of water. It burns with a blue smokeless flame. It leaves no residue when evaporated (absence of fixed matter). It remains clear when mixed with *water* (absence of oily or resinous substances). A little exposed on clean white filter paper leaves no unpleasant smell after the alcohol has evaporated (absence of fusel oil and allied impurities). 100 cubic centimetres, with 2 cubic centimetres of the *volumetric solution of silver nitrate*, exposed for 24 hours to bright light and then decanted from the black powder which has formed, undergo no further change when again exposed to light with more of the *volumetric solution* (absence of more than traces of amylic alcohol and of other organic impurities). When mixed with half its volume of *solution of potassium hydroxide*, the liquid should not immediately darken in colour (absence of more than traces of aldehyde). The addition of *solution of ammonia* should not cause an immediate darkening in colour (absence of tannic acid, excess of aldehyde, and other organic impurities).

Alcohol (90 per cent.) is only slightly stronger than the Rectified Spirit of the British Pharmacopœia 1885, containing by volume 1·35 per cent., or by weight 1·65 per cent., more ethyl hydroxide.

On mixing Alcohol (90 per cent.) and water, contraction of volume and rise of temperature occur. When such a mixture is prescribed in the British Pharmacopœia, the cooled liquid should be employed.

Diluted Alcohol.—The four official liquids obtained by diluting 'Alcohol (90 per cent.)' with Distilled Water, contain, respectively, seventy, sixty, forty-five, and twenty per cent. of ethyl hydroxide by volume. They may be prepared as described in the following paragraphs.

1. *Alcohol* (70 *per cent.*)—With one hundred fluid ounces of Alcohol (90 per cent.) mix thirty-one (more accurately 31·05) fluid ounces of Distilled Water. Or, with one thousand cubic centimetres of Alcohol (90 per cent.) mix three hundred and ten and a half (310·5) cubic centimetres of Distilled Water. Specific gravity 0·8900.

2. *Alcohol* (60 *per cent.*)—With one hundred fluid ounces of Alcohol (90 per cent.) mix fifty-three and two-thirds (more accurately 53·65) fluid ounces of Distilled Water. Or, with one thousand cubic centimetres of Alcohol (90 per cent.) mix five hundred and thirty-six and a half (536·5) cubic centimetres of Distilled Water. Specific gravity 0·9135.

3. *Alcohol* (45 *per cent.*)—With one hundred fluid ounces of Alcohol (90 per cent.) mix one hundred and five and one third (more accurately 105·34) fluid ounces of Distilled Water. Or, with one thousand cubic centimetres of Alcohol (90 per cent.) mix one thousand and fifty-three and a half (more accurately 1053·4) cubic centimetres of Distilled Water. Specific gravity 0·9436.

4. *Alcohol* (20 *per cent.*)—With one hundred fluid ounces of Alcohol (90 per cent.) mix three hundred and fifty-five and three-quarters (more accurately 355·8) fluid ounces of Distilled Water. Or, with one thousand cubic centimetres of Alcohol (90 per cent.) mix three thousand five hundred and fifty-eight (3558·0) cubic centimetres of Distilled Water. Specific gravity 0·9760.

SPIRITUS ROSMARINI.

Spirit of Rosemary.

	IMPERIAL	METRIC
Oil of Rosemary .	1 fl. ounce .	50 cubic centimetres
Alcohol (90 per cent.) .	a sufficient quantity	

To the Oil of Rosemary add enough of the Alcohol to form ten fluid ounces (or five hundred cubic centimetres) of the Spirit of Rosemary.

This Spirit of Rosemary contains five times the proportion of Oil of Rosemary present in the Spirit of Rosemary of the British Pharmacopœia of 1885.

SPIRITUS VINI GALLICI.

Brandy.

A spirituous liquid distilled from wine and matured by age, and containing not less than 36½ per cent. by weight or 43½ per cent. by volume of ethyl hydroxide.

STAPHISAGRIÆ SEMINA.

Stavesacre Seeds.

for lice

The dried ripe seeds of Delphinium Staphisagria, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. i. plate 4].

Characters.—Irregularly triangular or obscurely quadrangular, arched, blackish-brown when fresh, but becoming dull greyish-brown by keeping. Testa wrinkled and deeply pitted; interior soft, whitish, oily. No marked odour; taste nauseous, bitter, and acrid.

STRAMONII FOLIA.

Stramonium Leaves.

The dried leaves of Datura Stramonium, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. iii. plate 192].

Characters.—Ovate petiolate leaves, usually varying from four to six inches (ten to fifteen centimetres) in length. They are unequal at the base, the margin is sinuate-dentate and the apex acuminate. The upper surface is dark greyish-green and minutely wrinkled; the under surface is paler. The mesophyll contains cluster-crystals of calcium oxalate. The Leaves have a characteristic odour, and an unpleasant bitter taste.

STRAMONII SEMINA.

Stramonium Seeds.

The dried ripe seeds of Datura Stramonium, *Linn.*

Characters.—Dark brown or nearly black seeds, about one-sixth of an inch (four millimetres) long, reniform in outline, flattened. The surface is marked with reticulate depressions and is also minutely pitted. The embryo is curved and embedded in a white oily albumen. The Seeds have no marked odour, but a slightly bitter taste.

STROPHANTHI SEMINA.

Strophanthus Seeds.

The dried ripe seeds of Strophanthus Kombé, *Oliver* [*Icon. Plant.* plate 1098], freed from the awns.

Characters and Test.—Oval acuminate seeds, about three-fifths of an inch (fifteen millimetres) long and one-sixth of an inch (four millimetres) broad, of a greenish-fawn colour, and covered with silky appressed hairs. The Seeds are flattened, narrowed towards the base, which is obtuse, and provided on one side with a longitudinal ridge running from the centre to the apex of the seed. The nucleus is white and oily; the cotyledons are straight and surrounded by a thin endosperm. *Sulphuric acid* colours the latter, and sometimes the cotyledons, dark green (presence of strophanthin). The odour is characteristic; the taste very bitter.

STRYCHNINA.

Strychnine.

An alkaloid, $C_{21}H_{22}N_2O_2$, obtained from the dried ripe seeds of Strychnos Nux-vomica, *Linn.*, and other species of Strychnos.

Characters and Tests.—Trimetric prisms; colourless and inodorous; very sparingly soluble in *water*, but communicating to it an intensely bitter taste; soluble in 150 parts of cold but in less of boiling *alcohol* (90 per cent.), and in 6 parts of *chloroform*; slightly soluble in cold *absolute alcohol*, but readily in 40 parts of boiling *absolute alcohol*, and nearly insoluble in *ether*. *Sulphuric acid* forms with it a colourless solution, which on the addition of *potassium bichromate* acquires an intensely violet hue, speedily passing through red to yellow. When *sulphuric acid* containing one two-thousandth part of *potassium permanganate* is brought into contact with a minute particle of Strychnine, a violet coloration results. Not coloured by *nitric acid* (absence of brucine); leaves no ash when burned with free access of air (absence of mineral impurities).

Dose.—$\frac{1}{60}$ to $\frac{1}{15}$ grain.

STRYCHNINÆ HYDROCHLORIDUM.

Strychnine Hydrochloride.

Hydrochlorate of Strychnine, Brit. Pharm. 1885.

The hydrochloride, $C_{21}H_{22}N_2O_2,HCl,2H_2O$, of an alkaloid obtained from Nux Vomica and from other species of Strychnos.

Characters and Tests.—Small colourless trimetric prisms which readily effloresce in the air; soluble in 35 parts of *water* or in 60 parts of *alcohol* (90 per cent.), forming a solution which is neutral to *litmus* and intensely bitter to the taste. The salt should afford the reactions characteristic of hydrochlorides, and should respond to the qualitative tests mentioned under 'Strychnina,' but should not yield any characteristic reaction for sulphates. Dried at a temperature of 212° F. (100° C.) it should lose from 7·3 to 8·8 per cent. of moisture.

Dose.—$\frac{1}{60}$ to $\frac{1}{15}$ of a grain.

STYRAX PRÆPARATUS.

Prepared Storax.

A balsam obtained from the trunk of Liquidambar orientalis, *Miller* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 107], and purified by solution in ethylic alcohol, filtration, and evaporation of the solvent.

Characters and Tests.—A semi-transparent, brownish-yellow, semi-liquid balsam with a strong agreeable odour and balsamic taste. Heated in a test-tube placed in boiling water, it becomes more liquid, but gives off no moisture; boiled with *solution of potassium bichromate* and *sulphuric acid*, it evolves an odour resembling that of essential oil of bitter almonds.

SUCCUS BELLADONNÆ.

Juice of Belladonna.

Bruise the fresh leaves and young branches of Atropa Belladonna, *Linn.*; press out the juice; to every three volumes of juice add one of Alcohol (90 per cent.); set aside for seven days; filter.

[illegible]

Dose.—5 to 15 minims.

SUCCUS CONII.

Juice of Conium.

Gr [illegible]

Bruise the fresh leaves and young branches of Conium maculatum, *Linn.*; press out the juice; to every three volumes of juice add one of Alcohol (90 per cent.); set aside for seven days; filter.

Dose.—1 to 2 fluid drachms.

SUCCUS HYOSCYAMI.

Juice of Hyoscyamus.

Bruise the fresh leaves, flowering tops, and young branches of Hyoscyamus niger, *Linn.*; press out the juice; to every three volumes of juice add one of Alcohol (90 per cent.); set aside for seven days; filter.

Dose.—½ to 1 fluid drachm.

SUCCUS LIMONIS.

Lemon Juice.

The freshly expressed juice of the ripe fruit of Citrus medica, *Linn.*, var. β Limonum, *Hook. fil.*

Characters and Test.—A slightly turbid yellowish liquid, with a sharply acid taste. Specific gravity 1·030 to 1·040. One fluid ounce contains 30 to 40 grains (or 100 cubic centimetres contain 7 to 9 grammes) of citric acid. When Lemon Juice is evaporated to dryness, and the residue is incinerated, it should yield not more than 3 per cent. of ash.

110 minims (or 100 cubic centimetres) of Lemon Juice are neutralised by about 11½ grains (or 11·4 grammes) of Potassium Bicarbonate, by about 9½ grains (or 9·5 grammes) of Sodium Bicarbonate, and by about 16½ grains (or 16·5 grammes) of Sodium Carbonate.

SUCCUS SCOPARII.

Juice of Broom.

Bruise fresh Broom Tops; press out the juice; to every three volumes of juice add one of Alcohol (90 per cent.); set aside for seven days; filter.

Dose.—1 to 2 fluid drachms.

SUCCUS TARAXACI.

Juice of Taraxacum.

Bruise fresh Taraxacum Root; press out the juice; to every three volumes of juice add one of Alcohol (90 per cent.); set aside for seven days; filter.

Dose.—1 to 2 fluid drachms.

SULPHONAL.

Sulphonal.

Sulphonal, or dimethyl - methane - diethylsulphone, $(CH_3)_2C(SO_2C_2H_5)_2$, is a product of the oxidation of mercaptol, $(CH_3)_2C(SC_2H_5)_2$, obtained from acetone and mercaptan.

Characters and Tests.—Colourless, inodorous, nearly tasteless prismatic crystals; without action on *litmus*; melting at 258° F. (125°·5 C.). Soluble in 15 parts of boiling *water*, in 450 parts of cold *water*, in 50 parts of cold *alcohol* (90 per cent.), very soluble in boiling *alcohol* (90 per cent.), soluble in *ether*. Heated to redness with free access of air, it burns, evolving sulphurous anhydride, and leaving no residue (absence of mineral impurity). If a mixture of Sulphonal with an equal weight of *potassium cyanide* be heated, the odour of mercaptan is evolved, and when to the solution of the product in *water* excess of *hydrochloric acid* and a few drops of *test-solution of ferric chloride* are added, a reddish colour is developed. It evolves hydrogen sulphide when gradually warmed with dried *sodium acetate*. It should yield no characteristic reaction with the tests for chlorides or sulphates.

Dose.—10 to 30 grains.

SULPHUR PRÆCIPITATUM.

Precipitated Sulphur.

Synonym.—Milk of Sulphur.

Sulphur precipitated by hydrochloric acid from a solution of calcium sulphides and thiosulphate, which has been made by boiling together sulphur and lime in water.

Characters and Tests.—A greyish-yellow soft powder, free from grittiness and from the smell of hydrogen sulphide. Under the microscope it is seen to consist of opaque globules, without any admixture of crystalline matter. It responds to the chemical tests mentioned under 'Sulphur Sublimatum.'

Dose.—20 to 60 grains.

SULPHUR SUBLIMATUM.

Sublimed Sulphur.

Synonym.—Flowers of Sulphur.

May be prepared, more or less directly, from native sulphur or sulphides.

Characters and Tests.—A slightly gritty powder of a bright greenish-yellow colour, without taste and without odour. Under the microscope it is seen to consist of almost opaque irregular particles without any admixture of crystalline matter. It burns with a blue flame, forming sulphurous anhydride; and is entirely volatilised by heat. It should not have any action upon *litmus*. *Solution of ammonia*, agitated with it, and filtered, does not on evaporation leave any residue (absence of arsenium sulphide).

Dose.—20 to 60 grains.

SULPHURIS IODIDUM.

Sulphur Iodide.

	IMPERIAL	METRIC
Iodine . . .	4 ounces .	100 grammes
Sublimed Sulphur .	1 ounce .	25 grammes

Intimately mix the Sublimed Sulphur with the Iodine; heat the mixture gently in a loosely corked flask; when the mass becomes uniformly dark, increase the temperature so as to produce liquefaction; allow the product to cool in the flask. The flask should then be broken, and the solidified mass of Sulphur Iodide reduced to fragments, which should be kept in a well-closed vessel.

Characters and Tests.—A greyish-black solid substance, with a radiate crystalline appearance. It resembles iodine in smell, and in the property of staining the skin. Soluble in 60 parts of *glycerin*; insoluble in cold *water*. When boiled with *water* the iodine passes off in vapour, and the sulphur remains as an insoluble residue having about one-fifth of the weight of the Sulphur Iodide taken.

SUMBUL RADIX.

Sumbul Root.

The dried transverse slices of the root of Ferula Sumbul, *Hook. f.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 129].

Characters.—Varying much in size, but usually from about one inch to three inches (two and a half to seven and a half centimetres) in diameter, and from three-quarters of an inch to an inch (eighteen to twenty-five millimetres) or more in thickness. The pieces are covered on the outer surface with a dusky-brown, papery, transversely wrinkled cork, and are sometimes beset with short bristly fibres; internally they are spongy, coarsely fibrous, dry, and dirty yellowish-brown, mottled with whitish patches and spots of exuded resin. Odour strong, musk-like; taste bitter, aromatic.

SUPPOSITORIA ACIDI CARBOLICI.

Phenol Suppositories.

	IMPERIAL	METRIC
Phenol . . .	12 grains . .	0·8 gramme
White Beeswax . .	24 grains . .	1·6 grammes
Oil of Theobroma, melted . . .	a sufficient quantity to form, with the Phenol and Beeswax, a mixture which will fill twelve suitable moulds, each capable of holding fifteen to sixteen grains (or about one gramme) of Oil of Theobroma	

Dissolve the Phenol in the Oil of Theobroma and Beeswax previously melted together at a low temperature, and pour the mixture into the moulds; or let the mixture cool and then divide it into twelve equal parts of a conical or other convenient form for a suppository.

Each of these Suppositories contains 1 grain (or 0·067 gramme) of Phenol.

SUPPOSITORIA ACIDI TANNICI.

Tannic Acid Suppositories.

	IMPERIAL	METRIC
Tannic Acid	36 grains	2·4 grammes
Oil of Theobroma	a sufficient quantity to form with the Tannic Acid a mixture which will fill twelve suitable moulds, each capable of holding fifteen to sixteen grains (or about one gramme) of Oil of Theobroma	

Melt the Oil of Theobroma; triturate the Tannic Acid intimately with a little of the Oil, and add to the remainder; stir well; as the mixture begins to thicken pour it into the moulds; or let the mixture cool and then divide it into twelve equal parts of a conical or other convenient form for a suppository.

Each of these Suppositories contains 3 grains (or 0·2 gramme) of Tannic Acid.

SUPPOSITORIA BELLADONNÆ.

Belladonna Suppositories.

	IMPERIAL	METRIC
Alcoholic Extract of Belladonna	18 grains	1·2 grammes
Oil of Theobroma	a sufficient quantity for twelve suppositories	

Proceed as directed for Tannic Acid Suppositories.

Each of these Suppositories contains, approximately, $\frac{1}{60}$ grain (0·001 gramme) of the alkaloids of Belladonna Root.

SUPPOSITORIA GLYCERINI.

Glycerin Suppositories.

	IMPERIAL	METRIC
Gelatin, cut small .	½ ounce .	14·2 grammes
Glycerin . . .	2½ ounces .	71·0 grammes
Distilled Water . .	a sufficient quantity	

Place the Gelatin in a weighed evaporating dish with sufficient Distilled Water to cover it; let it stand for two minutes; pour off the excess of Distilled Water; set aside until the Gelatin is quite soft; add the Glycerin; dissolve on a water-bath; evaporate until the mixture weighs fifteen hundred and sixty-three grains (or one hundred and two grammes). Pour the product into suppository moulds having capacities equal to thirty, sixty, or one hundred and twenty grains (or two, four, or eight grammes), of the Suppository, or of such other capacities as may be required.

Each of these Suppositories contains 70 per cent. of Glycerin.

SUPPOSITORIA IODOFORMI.

Iodoform Suppositories.

	IMPERIAL	METRIC
Iodoform	36 grains .	2·4 grammes
Oil of Theobroma . .	a sufficient quantity for twelve suppositories	

Proceed as directed for Tannic Acid Suppositories.

Each of these Suppositories contains 3 grains (or 0·2 gramme) of Iodoform.

SUPPOSITORIA MORPHINÆ.

Morphine Suppositories.

	IMPERIAL	METRIC
Morphine Hydrochloride .	3 grains .	0·2 gramme
Oil of Theobroma .	a sufficient quantity for twelve suppositories	

Proceed as directed for Tannic Acid Suppositories.

Each of these Suppositories contains ¼ grain (or 0·017 gramme) of Morphine Hydrochloride.

SUPPOSITORIA PLUMBI COMPOSITA.

Compound Lead Suppositories.

	IMPERIAL	METRIC
Lead Acetate, in powder	36 grains	2·4 grammes
Opium, in powder	12 grains	0·8 gramme
Oil of Theobroma	a sufficient quantity for twelve suppositories	

Proceed as directed for Tannic Acid Suppositories.

Each of these Suppositories contains 3 grains (or 0·2 gramme) of Lead Acetate, and 1 grain (0·067 gramme) of Opium.

SYRUPUS.

Syrup.

	IMPERIAL	METRIC
Refined Sugar	5 pounds	1000 grammes
Distilled Water, boiling	a sufficient quantity	

Add the Refined Sugar to two pints (or five hundred cubic centimetres) of the boiling Distilled Water; heat until dissolved; make the weight of the product seven pounds and a half (or one thousand five hundred grammes) by the addition of boiling Distilled Water. Specific gravity 1·330.

SYRUPUS AROMATICUS.

Aromatic Syrup.

	IMPERIAL	METRIC
Tincture of Orange	5 fl. ounces	250 cubic centimetres
Cinnamon Water	5 fl. ounces	250 cubic centimetres
Syrup	10 fl. ounces	500 cubic centimetres

Mix the Tincture of Orange and Cinnamon Water; shake the mixture with a little *powdered talc*; filter; add the Syrup.

Dose.—½ to 1 fluid drachm.

SYRUPUS AURANTII.

Syrup of Orange.

	IMPERIAL	METRIC
Tincture of Orange	1 fl. ounce .	30 cubic centimetres
Syrup . . .	7 fl. ounces .	210 cubic centimetres

Mix.

Dose.—½ to 1 fluid drachm.

SYRUPUS AURANTII FLORIS.

Syrup of Orange-Flower.

	IMPERIAL	METRIC
Orange-flower water of commerce, undiluted	8 fl. ounces .	100 cubic centimetres
Refined Sugar . .	3 pounds .	600 grammes
Distilled Water, boiling	a sufficient quantity	

Add the Refined Sugar to sixteen fluid ounces (or two hundred cubic centimetres) of the boiling Distilled Water; heat until dissolved; add the undiluted orange-flower water; make the weight of the product four pounds and a half (or nine hundred grammes) by the addition of recently boiled Distilled Water.

Dose.—½ to 1 fluid drachm.

SYRUPUS CALCII LACTOPHOSPHATIS.

Syrup of Calcium Lactophosphate.

	IMPERIAL	METRIC
Precipitated Calcium Carbonate . .	2½ ounces . .	25 grammes
Concentrated Phosphoric Acid . .	4 fl. ounces and 262 minims	46 cubic centimetres
Lactic Acid . .	6 fl. ounces .	60 cubic centimetres
Refined Sugar . .	70 ounces . .	700 grammes
Orange-flower water of commerce, undiluted . . .	2½ fl. ounces .	25 cubic centimetres
Distilled Water . .	a sufficient quantity	

Add the Calcium Carbonate gradually to the Lactic Acid, diluted with four times its volume of Distilled Water. When solution is complete, add the Concentrated Phosphoric Acid, and triturate until the precipitate which at first forms is dissolved. Dilute with a little Distilled Water; add the undiluted orange-flower water; filter; dissolve the Refined Sugar in the mixture without the aid of heat; strain; add sufficient Distilled Water to make five pints (or one thousand cubic centimetres) of the Syrup.

Dose.—½ to 1 fluid drachm.

SYRUPUS CASCARÆ AROMATICUS.

Aromatic Syrup of Cascara.

	IMPERIAL	METRIC
Liquid Extract of Cascara Sagrada	8 fl. ounces	400 cubic centimetres
Tincture of Orange	2 fl. ounces	100 cubic centimetres
Alcohol (90 per cent.)	1 fl. ounce	50 cubic centimetres
Cinnamon Water	3 fl. ounces	150 cubic centimetres
Syrup	6 fl. ounces	300 cubic centimetres

Mix.

Dose.—½ to 2 fluid drachms.

SYRUPUS CHLORAL.

Syrup of Chloral.

	IMPERIAL	METRIC
Chloral Hydrate	1600 grains	91·43 grammes
Distilled Water	30 fl. drachms	93·75 cubic centimetres
Syrup	a sufficient quantity	

Dissolve the Chloral Hydrate in the Distilled Water; add the Syrup until the mixed product measures one pint (or five hundred cubic centimetres).

Dose.—½ to 2 fluid drachms.

1 fluid drachm of this Syrup contains 10 grains of Chloral Hydrate.

SYRUPUS CODEINÆ.

Syrup of Codeine.

	IMPERIAL	METRIC
Codeine Phosphate	40 grains	4·57 grammes
Distilled Water	¼ fl. ounce	12·5 cubic centimetres
Syrup	19¾ fl. ounces	987·5 cubic centimetres

Dissolve the Codeine Phosphate in the Distilled Water; add the Syrup; mix.

Dose.—½ to 2 fluid drachms.

1 fluid drachm of this Syrup contains ¼ grain of Codeine Phosphate.

SYRUPUS FERRI IODIDI.

Syrup of Ferrous Iodide.

	IMPERIAL	METRIC
Iron, in wire	½ ounce	25 grammes
Iodine	726 grains	83 grammes
Refined Sugar	16½ ounces	825 grammes
Distilled Water	a sufficient quantity	

Add the Refined Sugar to six fluid ounces (or three hundred cubic centimetres) of boiling Distilled Water and heat until dissolved. Dilute half a fluid ounce (or twenty-five cubic centimetres) of the resulting syrup with an equal volume of Distilled Water and set aside. Digest the Iodine and the Iron wire in a flask with two and a half fluid ounces (or one hundred and twenty-five cubic centimetres) of Distilled Water; heat gently, and finally boil slightly, until the froth loses its yellow colour; filter the liquid while still hot into the syrup, washing the flask and the filter with the diluted syrup previously set aside and now heated to boiling. Pass sufficient boiling Distilled Water through the filter to produce, when cold, one pint (or one thousand cubic centimetres). Mix. The Syrup should have a specific gravity of 1·380 to 1·387.

Test.—Dissolve 1 gramme of dried *sodium carbonate* in 10 cubic centimetres of *water*, in a flask of which the capacity to a mark on the neck is 100 cubic centimetres; pour into the flask 10 cubic centimetres (or 13·87 grammes) of the Syrup, and agitate the mixture occasionally until the precipitation of the iron is complete; then add more *water* to make the whole measure 100 cubic centimetres; mix and filter. 25 cubic centimetres of the filtrate, neutralised with *diluted nitric acid*, should require not less than 16 and not more than 16·5 cubic centimetres of the *volumetric solution of silver nitrate* for complete precipitation of the iodine, *solution of potassium chromate* being used as an indicator.

Dose.—½ to 1 fluid drachm.

11 minims of this Syrup contain 1 grain of ferrous iodide.

SYRUPUS FERRI PHOSPHATIS.

Syrup of Ferrous Phosphate.

	IMPERIAL	METRIC
Iron, in wire	75 grains	8·6 grammes
Concentrated Phosphoric Acid	1¼ fl. ounces	62·5 cubic centimetres
Syrup	14 fl. ounces	700 cubic centimetres
Distilled Water	a sufficient quantity	

Place the Iron wire and the Concentrated Phosphoric Acid, previously diluted with an equal volume of Distilled Water, in a small flask; plug the neck with cotton wool, and heat gently until the Iron is dissolved. When cold, filter into the Syrup, and pass a sufficient quantity of Distilled Water through the filter to make the product measure one pint (or one thousand cubic centimetres).

Dose.—½ to 1 fluid drachm.

1 fluid drachm of this Syrup represents 1 grain of anhydrous ferrous phosphate.

SYRUPUS FERRI PHOSPHATIS CUM QUININA ET STRYCHNINA.

Syrup of Phosphate of Iron with Quinine and Strychnine.

	IMPERIAL	METRIC
Iron, in wire . .	75 grains .	. 8·6 grammes
Concentrated Phosphoric Acid . .	1¼ fl. ounces	. 62·5 cubic centimetres
Strychnine, in powder .	5 grains .	. 0·57 gramme
Quinine Sulphate .	130 grains	. 14·8 grammes
Syrup	14 fl. ounces	700 cubic centimetres
Distilled Water . .	a sufficient quantity	

Place the Iron wire and the Concentrated Phosphoric Acid, previously diluted with an equal volume of Distilled Water, in a small flask; plug the neck with cotton-wool, and heat gently until the Iron is dissolved; in the resulting solution dissolve the Strychnine and Quinine Sulphate; filter into the Syrup; pass sufficient Distilled Water through the filter to make the product measure one pint (or one thousand cubic centimetres).

Dose.—½ to 1 fluid drachm.

One fluid drachm of this Syrup represents 1 grain of anhydrous ferrous phosphate, ⅘ grain of Quinine Sulphate, and $\frac{1}{32}$ grain of Strychnine.

SYRUPUS GLUCOSI.

Syrup of Glucose.

	IMPERIAL	METRIC
Liquid glucose, of commerce	1 ounce	. 25 grammes
Syrup	2 ounces	. 50 grammes

Mix, by the aid of gentle heat.

SYRUPUS HEMIDESMI.

Syrup of Hemidesmus.

	IMPERIAL	METRIC
Hemidesmus Root, bruised	4 ounces	100 grammes
Refined Sugar	28 ounces	700 grammes
Distilled Water, boiling	1 pint	500 cubic centimetres

Infuse the Hemidesmus Root in the Distilled Water, in a covered vessel, for four hours, and strain. Set the infusion aside until clear; then decant the clear liquid, add the Refined Sugar, and dissolve by the aid of gentle heat. The weight of the product should be forty-two ounces (or one thousand and fifty grammes).

Dose.—½ to 1 fluid drachm.

SYRUPUS LIMONIS.

Syrup of Lemon.

	IMPERIAL	METRIC
Fresh Lemon Peel, in thin slices or grated	1 ounce	20 grammes
Alcohol (90 per cent.)	a sufficient quantity	
Lemon Juice	25 fl. ounces	500 cubic centimetres
Refined Sugar	38 ounces	760 grammes

Macerate the Lemon Peel in one fluid ounce and a half (or thirty cubic centimetres) of the Alcohol for seven days; press; filter; add sufficient of the Alcohol to produce two fluid ounces (or forty cubic centimetres). In the Lemon Juice, clarified by subsidence, dissolve the Refined Sugar by the aid of gentle heat. When the resulting syrup is cold, mix with it the two fluid ounces (or forty cubic centimetres) of alcoholic liquid. The product should weigh four pounds and one ounce (or thirteen hundred grammes).

Dose.—½ to 1 fluid drachm.

SYRUPUS PRUNI VIRGINIANÆ.

Syrup of Virginian Prune.

	IMPERIAL	METRIC
Virginian Prune Bark, in No. 20 powder .	3 ounces .	150 grammes
Refined Sugar, in coarse powder . . .	15 ounces .	750 grammes
Glycerin . . .	$1\frac{1}{4}$ fl. ounces .	62·5 cubic centimetres
Distilled Water . .	a sufficient quantity	

Moisten the Virginian Prune Bark with Distilled Water; set aside for twenty-four hours in a closed vessel; pack in a percolator; gradually add Distilled Water until a quantity of nine fluid ounces (or four hundred and fifty cubic centimetres) of percolate has been collected; dissolve the Refined Sugar in the liquid, by agitation, without heat; add the Glycerin; strain; pour sufficient Distilled Water over the strainer to produce one pint (or one thousand cubic centimetres) of the Syrup.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

SYRUPUS RHEI.

Syrup of Rhubarb.

	IMPERIAL	METRIC
Rhubarb Root, in No. 20 powder	2 ounces .	50 grammes
Coriander Fruit, in No. 20 powder . .	2 ounces .	50 grammes
Refined Sugar .	24 ounces .	600 grammes
Alcohol (90 per cent.) . .	8 fl. ounces .	200 cubic centimetres
Distilled Water .	24 fl. ounces .	600 cubic centimetres

Moisten the mixed Rhubarb Root and Coriander Fruit with a portion of the mixed Alcohol and Distilled Water, and set aside; pack in a percolator; pass the remainder of the diluted alcohol slowly through the materials; evaporate the percolate until it is reduced to fourteen fluid ounces (or three hundred and fifty cubic centimetres), and in this, after it has been filtered, dissolve the Refined Sugar by the aid of heat. The product should weigh nearly two and a half pounds (or one thousand grammes).

Dose.—$\frac{1}{2}$ to 2 fluid drachms.

SYRUPUS RHŒADOS.

Syrup of Red-Poppy.

	IMPERIAL	METRIC
Red-Poppy Petals . .	13 ounces .	260 grammes
Refined Sugar . . .	$2\frac{1}{4}$ pounds .	720 grammes
Alcohol (90 per cent.) .	$2\frac{1}{2}$ fl. ounces	50 cubic centimetres
Distilled Water . .	a sufficient quantity	

Add the Red-Poppy Petals gradually to one pint (or four hundred cubic centimetres) of Distilled Water kept hot upon a water-bath; stir frequently, and afterwards, the vessel being removed, infuse for twelve hours. Then press out the liquid; strain; add the Refined Sugar, and dissolve by the aid of heat. When nearly cold, add the Alcohol, and sufficient Distilled Water to produce three pounds ten ounces (or one thousand one hundred and sixty grammes) of the Syrup.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

SYRUPUS ROSÆ.

Syrup of Roses.

	IMPERIAL	METRIC
Dried Red-Rose Petals	2 ounces	50 grammes
Refined Sugar . .	30 ounces	750 grammes
Distilled Water, boiling	1 pint	500 cubic centimetres

Infuse the Red-Rose Petals in the Distilled Water for two hours; strain; press; heat the liquid to the boiling point; filter; dissolve the Refined Sugar in the liquid by the aid of heat. The product should weigh two pounds fourteen ounces (or eleven hundred and fifty grammes).

Dose.—½ to 1 fluid drachm.

SYRUPUS SCILLÆ.

Syrup of Squill.

	IMPERIAL	METRIC
Vinegar of Squill	1 pint .	500 cubic centimetres
Refined Sugar .	38 ounces .	950 grammes

Dissolve the Refined Sugar in the Vinegar of Squill by the aid of gentle heat. The product should weigh three pounds ten ounces.

Dose.—½ to 1 fluid drachm.

SYRUPUS SENNÆ.

Syrup of Senna.

	IMPERIAL	METRIC
Senna	40 ounces .	1200 grammes
Oil of Coriander . .	10 minims .	0·6 cubic centimetre
Alcohol (90 per cent.) .	40 minims .	2·4 cubic centimetres
Refined Sugar, in Powder . . .	50 ounces .	1500 grammes
Alcohol (20 per cent.)	70 fl. ounces .	2100 cubic centimetres

Moisten the Senna with two pints (or twelve hundred cubic centimetres) of the Alcohol; pack tightly in a vessel which can afterwards be closed; set aside for three days; press strongly; reserve the liquid obtained; break up the marc; moisten it with fifteen fluid ounces (or four hundred and fifty cubic centimetres) of the Alcohol; set aside for twenty-four hours; press strongly; add the liquid obtained to the portion previously reserved; break up the marc; mix it with the remainder of the Alcohol; set aside for three hours; press again; evaporate the resulting liquid until it is reduced to such a volume that when added to the reserved liquid the whole shall measure two pints (or twelve hundred cubic centimetres). Mix the evaporated liquid with the reserved liquid; heat the product in a covered vessel to 180° F. (82·2° C.) for a few minutes; set aside for twenty-four hours; filter; pass Distilled Water through the filter until the filtrate measures forty fluid ounces (or twelve hundred cubic centimetres); add the Refined Sugar, and dissolve in a covered vessel by the aid of gentle heat; cool; add the Oil of Coriander dissolved in the Alcohol (90 per cent.); shake well. The product should weigh five pounds twelve ounces (or two thousand seven hundred and sixty grammes).

Dose.—½ to 2 fluid drachms.

SYRUPUS TOLUTANUS.

Syrup of Balsam of Tolu.

	IMPERIAL	METRIC
Balsam of Tolu	1¼ ounces	62·5 grammes
Refined Sugar	2 pounds	1600 grammes
Distilled Water	a sufficient quantity	

Boil the Balsam of Tolu in one pint (or one thousand cubic centimetres) of the Distilled Water for half an hour in a lightly covered vessel, stirring frequently. Then remove from the source of heat and add Distilled Water, if necessary, so that the liquid when cold shall measure sixteen fluid ounces (or eight hundred cubic centimetres). Filter the solution, add the Refined Sugar, and dissolve by the aid of a water bath. The product should weigh three pounds (or two thousand four hundred grammes).

Dose.—½ to 1 fluid drachm.

SYRUPUS ZINGIBERIS.

Syrup of Ginger.

	IMPERIAL	METRIC
Ginger, in fine powder	½ ounce	12·5 grammes
Alcohol (90 per cent.) Syrup	of each a sufficient quantity	

Prepare one fluid ounce (or twenty-five cubic centimetres) of a strong tincture of the Ginger by the process of percolation with the Alcohol. To this add sufficient of the Syrup to produce twenty fluid ounces (or five hundred cubic centimetres) of the Syrup of Ginger.

Dose.—½ to 1 fluid drachm.

TABELLÆ TRINITRINI.

Trinitrin Tablets.

Synonym.—Tablets of Nitroglycerin.

Tablets of chocolate each weighing five grains (0·324 gramme) and containing one hundredth of a grain (0·00065 gramme) of the trinitroglycerin of commerce.

Dose.—1 or 2 tablets.

TAMARINDUS.

Tamarinds.

The fruits of Tamarindus indica, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 92], freed from the brittle outer part of the pericarp and preserved with sugar.

Characters and Test.—A reddish-brown moist sugary mass, containing strong branched fibres, and brown shining seeds, each of which is enclosed in a tough membranous coat or endocarp. Taste agreeable, refreshing, subacid. The pulp should not yield any characteristic reaction for copper with the tests for that metal.

TARAXACI RADIX.

Taraxacum Root.

The fresh and the dried roots of Taraxacum officinale, *Wiggers* [*Bentl. and Trim. Med. Pl.* vol. iii. plate 159]. Collected in the autumn.

Characters.—Root, when fresh, frequently a foot (three decimetres) or more in length, and half an inch (twelve millimetres) or more in diameter, smooth and yellowish-brown externally, whitish within. It breaks readily with a short fracture; from the fractured surface, which exhibits faint concentric rings, a milky juice exudes. When dried, it is more or less shrivelled, deeply wrinkled longitudinally, dark brown or nearly black, breaks with a short fracture, and the exposed surface shows a small yellow porous wood, surrounded by a thick nearly white cortex which exhibits a variable number, according to its size, of irregular well-marked concentric rings. Inodorous; taste bitter.

TEREBENUM.

Terebene.

A mixture of dipentene and other hydrocarbons, obtained by agitating oil of turpentine with successive quantities of sulphuric acid until it no longer rotates the plane of a ray of polarised light, and then distilling in a current of steam.

Characters and Tests.—A colourless liquid, having an agreeable odour and an aromatic terebinthinate taste. Specific gravity 0·862 to 0·866. Does not rotate the plane of a ray of polarised light. Should distil between 312·8° and 356° F. (156° and 180° C.), leaving only a slight viscid residue (absence of excess of resin). Not more than 15 per cent. should distil below 329° F. (165° C.).

Dose.—5 to 15 minims.

TEREBINTHINA CANADENSIS.

Canada Turpentine.

Synonym.—Canada Balsam.

The oleo-resin obtained from Abies balsamea, *Mill.* [*Bentl. and Trim. Med. Pl.* vol. iv. plate 263].

Characters and Tests.—A pale yellow and faintly greenish transparent oleo-resin, of the consistence of thin honey, with a peculiar and agreeable terebinthinate odour, and a slightly bitter feebly acrid taste; drying very slowly, on exposure to the air, into a transparent varnish, and solidifying when mixed with about a sixth of its weight of *magnesia* moistened with a little *water*.

THUS AMERICANUM.

Frankincense.

The concrete oleo-resin which is scraped off the trunks of Pinus palustris, *Mill.*, and Pinus Tæda, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. iv. plates 258, 259].

Characters.—When fresh it is a rather soft pale yellow, opaque, tough solid, with a terebinthinate odour; but on keeping, it becomes dry, brittle, translucent, darker in colour, and fainter in odour.

THYMOL.

Thymol.

A crystalline substance, $C_6H_3{\cdot}OH{\cdot}CH_3{\cdot}C_3H_7$, obtained from the volatile oils of Thymus vulgaris, *Linn.*, Monarda punctata, *Linn.*, and Carum copticum, *Benth. and Hook. f.* [*Bentl. and Trim. Med. Pl.* vol. iii. plates 205 and 208, and vol. ii. plate 120]. Purified by recrystallisation from alcohol.

Characters and Tests.—Large oblique prismatic crystals, having the odour of thyme and a pungent aromatic taste. They sink in cold water, but on heating the mixture to a temperature of 110° to 125° F. (43·3° to 51·7° C.) they melt and rise to the surface. Almost insoluble in cold *water*, freely soluble in *alcohol* (90 per cent.), *ether*, and solutions of alkalis. The crystals volatilise completely at the temperature of a water-bath. A solution of Thymol in half its bulk of *glacial acetic acid*, warmed with an equal volume of *sulphuric acid*, assumes a reddish-violet colour.

Dose.—½ to 2 grains.

THYROIDEUM SICCUM.

Dry Thyroid.

A powder prepared from the fresh and healthy thyroid gland of the sheep. Remove the external fat and connective tissue from thyroid glands taken from sheep immediately after killing. Cut the glands across, and reject any which contain cysts, are hypertrophied, or otherwise abnormal. Mince finely the healthy glands, and dry at a temperature of 90° to 100° F. (32·2° to 37·8° C.); powder the dried product; remove all fat from it by treatment with *petroleum spirit*; and again dry the residue.

Characters.—A light dull-brown powder, with a very faint meat-like odour and taste, and free from any flavour of putrescence. It is liable to become damp on exposure to the air, and then deteriorates.

Dose.—3 to 10 grains.

TINCTURA ACONITI.

Tincture of Aconite.

	IMPERIAL	METRIC
Aconite Root, in No. 40 powder	1 ounce .	50 grammes
Alcohol (70 per cent.) . .	a sufficient quantity	

Moisten the powder with four fluid drachms (or twenty-five cubic centimetres) of the Alcohol, and complete the percolation process. The resulting Tincture should measure one pint (or one thousand cubic centimetres).

Dose.—5 to 15 minims; if very frequently repeated, 2 to 5 minims.

This preparation is made with two-fifths the proportion of Aconite Root ordered for the Tincture of Aconite of the British Pharmacopœia of 1885.

TINCTURA ALOES.

Tincture of Aloes.

	IMPERIAL	METRIC
Extract of Barbados Aloes .	½ ounce .	25 grammes
Liquid Extract of Liquorice	3 fl. ounces	150 cubic centimetres
Alcohol (45 per cent.) . .	a sufficient quantity	

Place the Extract of Barbados Aloes in a closed vessel with sixteen fluid ounces (or eight hundred cubic centimetres) of the Alcohol; set aside for forty-eight hours, occasionally shaking until dissolved; add the Liquid Extract of Liquorice; filter; pass sufficient of the Alcohol through the filter to produce one pint (or one thousand cubic centimetres) of the Tincture.

Dose.—½ to 1 fluid drachm, for repeated administration; for a single administration, 1½ to 2 fluid drachms.

TINCTURA ARNICÆ.

Tincture of Arnica.

	IMPERIAL	METRIC
Arnica Rhizome, in No. 40 powder . . .	1 ounce .	50 grammes
Alcohol (70 per cent.) . .	a sufficient quantity	

Moisten the powder with one fluid ounce (or fifty cubic centimetres) of the Alcohol, and complete the percolation process. The resulting Tincture should measure one pint (or one thousand cubic centimetres).

TINCTURA ASAFETIDÆ.

Tincture of Asafetida.

	IMPERIAL	METRIC
Asafetida, bruised .	4 ounces	200 grammes
Alcohol (70 per cent.) . .	a sufficient quantity	

Place the Asafetida in a closed vessel with fifteen fluid ounces (or seven hundred and fifty cubic centimetres) of the Alcohol; set aside for seven days, with occasional agitation; filter; pass sufficient of the Alcohol through the filter to produce one pint (or one thousand cubic centimetres) of the Tincture.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

TINCTURA AURANTII.

Tincture of Orange.

	IMPERIAL	METRIC
Fresh Bitter-Orange Peel, cut small	5 ounces	250 grammes
Alcohol (90 per cent.)	1 pint	1000 cubic centimetres

Prepare by the maceration process.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

TINCTURA BELLADONNÆ.

Tincture of Belladonna.

	IMPERIAL	METRIC
Liquid Extract of Belladonna	2 fl. ounces	60 cubic centimetres
Alcohol (60 per cent.)	a sufficient quantity	

To the Liquid Extract of Belladonna add enough of the Alcohol to form thirty fluid ounces (or nine hundred cubic centimetres) of the Tincture; set aside for twenty-four hours; filter.

Test.—On evaporation to a low bulk, and subsequent treatment by the analytical process employed for 'Extractum Belladonnæ Liquidum,' 100 cubic centimetres of the Tincture should yield not less than 0·048 nor more than 0·052 gramme of alkaloid.

Dose.—5 to 15 minims.

TINCTURA BENZOINI COMPOSITA.

Compound Tincture of Benzoin.

Synonym.—Friars' Balsam.

	IMPERIAL	METRIC
Benzoin, in coarse powder	2 ounces	100 grammes
Prepared Storax	1½ ounces	75 grammes
Balsam of Tolu	½ ounce	25 grammes
Socotrine Aloes	160 grains	18·3 grammes
Alcohol (90 per cent.)	a sufficient quantity	

Place the Benzoin, Storax, Balsam of Tolu, and Aloes with sixteen fluid ounces (or eight hundred cubic centimetres) of the Alcohol in a closed vessel, set aside for two days, frequently agitating; filter; pass sufficient of the Alcohol through the filter to produce one pint (or one thousand cubic centimetres) of the Tincture.

Dose.—½ to 1 fluid drachm.

TINCTURA BUCHU.

Tincture of Buchu.

	IMPERIAL	METRIC
Buchu Leaves, in No. 20 powder	4 ounces	200 grammes
Alcohol (60 per cent.)	a sufficient quantity	

Moisten the powder with four fluid ounces (or two hundred cubic centimetres) of the Alcohol, and complete the percolation process. The resulting Tincture should measure one pint (or one thousand cubic centimetres).

Dose.—½ to 1 fluid drachm.

TINCTURA CALUMBÆ.

Tincture of Calumba.

	IMPERIAL	METRIC
Calumba Root, in No. 20 powder	2 ounces	100 grammes
Alcohol (60 per cent.)	1 pint	1000 cubic centimetres

Prepare by the maceration process.

Dose.—½ to 1 fluid drachm.

TINCTURA CAMPHORÆ COMPOSITA.

Compound Tincture of Camphor.

Synonyms.—Paregoric; Paregoric Elixir.

	IMPERIAL	METRIC
Tincture of Opium	585 minims	60·9 cubic centimetres
Benzoic Acid	40 grains	4·6 grammes
Camphor	30 grains	3·4 grammes
Oil of Anise	30 minims	3·1 cubic centimetres
Alcohol (60 per cent.)	a sufficient quantity	

Dissolve the Benzoic Acid, Camphor, and Oil of Anise in eighteen fluid ounces (or nine hundred cubic centimetres) of the Alcohol; add the Tincture of Opium and a sufficient quantity of the Alcohol to produce one pint (or one thousand cubic centimetres) of the Tincture; filter if necessary.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

This Compound Tincture of Camphor contains in each fluid drachm a proportion of Tincture of Opium equivalent to $\frac{1}{30}$ grain of Morphine Hydrochloride, or to $\frac{1}{4}$ grain of Opium (containing 10 per cent. of anhydrous morphine); or to nearly 0·5 milligramme (0·00046 gramme) of anhydrous morphine in each cubic centimetre.

TINCTURA CANNABIS INDICÆ.

Tincture of Indian Hemp.

	IMPERIAL	METRIC
Extract of Indian Hemp	1 ounce	50 grammes
Alcohol (90 per cent.)	a sufficient quantity	

Dissolve the Extract of Indian Hemp in eighteen fluid ounces (or nine hundred cubic centimetres) of the Alcohol; filter if necessary; add sufficient of the Alcohol to produce one pint (or one thousand cubic centimetres) of the Tincture.

Dose.—5 to 15 minims.

TINCTURA CANTHARIDIS.

Tincture of Cantharides.

	IMPERIAL	METRIC
Cantharides, in No. 40 powder	¼ ounce	12·5 grammes
Alcohol (90 per cent.)	1 pint	1000 cubic centimetres

Prepare by the maceration process.

Dose.—5 to 15 minims; if frequently repeated, 2 to 5 minims.

TINCTURA CAPSICI.

Tincture of Capsicum.

	IMPERIAL	METRIC
Capsicum, in No. 20 powder	1 ounce	50 grammes
Alcohol (70 per cent.)	1 pint	1000 cubic centimetres

Prepare by the maceration process.

Dose.—5 to 15 minims.

TINCTURA CARDAMOMI COMPOSITA.

Compound Tincture of Cardamoms.

	IMPERIAL	METRIC
Cardamom Seeds, bruised	¼ ounce	12·5 grammes
Caraway Fruit, bruised	¼ ounce	12·5 grammes
Raisins of commerce, freed from seeds	2 ounces	100 grammes
Cinnamon Bark, bruised	½ ounce	25 grammes
Cochineal, in powder	55 grains	6·3 grammes
Alcohol (60 per cent.)	1 pint	1000 cubic centimetres

Prepare by the maceration process.

Dose.—½ to 1 fluid drachm.

TINCTURA CASCARILLÆ.

Tincture of Cascarilla.

	IMPERIAL	METRIC
Cascarilla, in No. 40 powder	4 ounces .	200 grammes
Alcohol (70 per cent.) . . .	a sufficient quantity	

Moisten the powder with three fluid ounces (or one hundred and fifty cubic centimetres) of the Alcohol, and complete the percolation process. The resulting Tincture should measure one pint (or one thousand cubic centimetres).

Dose.—½ to 1 fluid drachm.

TINCTURA CATECHU.

Tincture of Catechu.

	IMPERIAL	METRIC
Catechu, in coarse powder	4 ounces .	200 grammes
Cinnamon Bark, bruised	1 ounce . .	50 grammes
Alcohol (60 per cent.)	1 pint . .	1000 cubic centimetres

Prepare by the maceration process.

Dose.—½ to 1 fluid drachm.

TINCTURA CHIRATÆ.

Tincture of Chiretta.

	IMPERIAL	METRIC
Chiretta, in No. 40 powder	2 ounces .	100 grammes
Alcohol (60 per cent.) . .	a sufficient quantity	

Moisten the powder with two fluid ounces (or one hundred cubic centimetres) of the Alcohol, and complete the percolation process. The resulting Tincture should measure one pint (or one thousand cubic centimetres).

Dose.—½ to 1 fluid drachm.

TINCTURA CHLOROFORMI ET MORPHINÆ COMPOSITA.

Compound Tincture of Chloroform and Morphine.

	IMPERIAL	METRIC
Chloroform	$1\frac{1}{2}$ fl. ounces	75 cubic centimetres
Morphine Hydrochloride	$87\frac{1}{2}$ grains	10 grammes
Diluted Hydrocyanic Acid	1 fl. ounce	50 cubic centimetres
Tincture of Capsicum	$\frac{1}{2}$ fl. ounce	25 cubic centimetres
Tincture of Indian Hemp	2 fl. ounces	100 cubic centimetres
Oil of Peppermint	14 minims	1·5 cubic centimetres
Glycerin	5 fl. ounces	250 cubic centimetres
Alcohol (90 per cent.)	a sufficient quantity	

Mix the Chloroform, Tincture of Capsicum, Tincture of Indian Hemp, Oil of Peppermint, and Glycerin, with nine fluid ounces (or four hundred and fifty cubic centimetres) of the Alcohol, and dissolve the Morphine Hydrochloride in the mixture; add the Diluted Hydrocyanic Acid; then mix with enough of the Alcohol to form one pint (or one thousand cubic centimetres) of the Compound Tincture.

Dose.—5 to 15 minims.

This preparation contains in a ten-minim dose $\frac{3}{4}$ minim of Chloroform, $\frac{1}{2}$ minim of Diluted Hydrocyanic Acid, and $\frac{1}{11}$ grain of Morphine Hydrochloride—that is, more than four times the proportion of Morphine Hydrochloride present in the corresponding preparation of the British Pharmacopœia of 1885.

TINCTURA CIMICIFUGÆ.

Tincture of Cimicifuga.

Synonym.—Tincture of Actæa Racemosa.

	IMPERIAL	METRIC
Cimicifuga, in No. 40 powder	2 ounces	100 grammes
Alcohol (60 per cent.)	a sufficient quantity	

Moisten the powder with one fluid ounce (or fifty cubic centimetres) of the Alcohol, and complete the percolation process. The resulting Tincture should measure one pint (or one thousand cubic centimetres).

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

TINCTURA CINCHONÆ.

Tincture of Cinchona.

	IMPERIAL	METRIC
Red Cinchona Bark, in No. 40 powder	4 ounces	200 grammes
Alcohol (70 per cent.)	a sufficient quantity	

Moisten the powdered Bark with four fluid ounces (or two hundred cubic centimetres) of the Alcohol; set aside for twenty-four hours in a closed vessel; percolate with more of the Alcohol, until fourteen fluid ounces (or seven hundred cubic centimetres) of percolate have been collected; press the marc; add the expressed liquid to the percolate; set aside for twenty-four hours; filter.

Take ten cubic centimetres of the resulting strong tincture, and determine its proportion of alkaloids by the assay process given under 'Extractum Cinchonæ Liquidum.'

Add to the bulk of the strong tincture such a quantity of the Alcohol that one hundred cubic centimetres of the resulting Tincture shall contain one gramme of alkaloids.

Test.—10 cubic centimetres, when treated by the assay process described under 'Extractum Cinchonæ Liquidum,' should yield an amount of alkaloids representing not less than 0·95 gramme nor more than 1·05 grammes, in one hundred cubic centimetres of the Tincture.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

[illegible]

TINCTURA CINCHONÆ COMPOSITA.

Compound Tincture of Cinchona.

	IMPERIAL	METRIC
Dried Bitter-Orange Peel, well bruised	1 ounce	50 grammes
Serpentary Rhizome, in No. 40 powder	½ ounce	25 grammes
Cochineal, in powder	28 grains	3·2 grammes
Saffron	55 grains	6·3 grammes
Tincture of Cinchona	10 fl. ounces	500 cubic centimetres
Alcohol (70 per cent.)	a sufficient quantity	

Mix the solid ingredients with ten fluid ounces (or five hundred cubic centimetres) of the Alcohol; set aside in a closed vessel for seven days, agitating frequently; strain; press the marc; mix the liquids; add the Tincture of Cinchona, and enough of the Alcohol to produce one pint (or one thousand cubic centimetres) of the Compound Tincture; set aside for twenty-four hours; filter.

Tests.—10 cubic centimetres, when treated by the assay process described under 'Extractum Cinchonæ Liquidum,' should yield not less than 0·045 gramme nor more than 0·055 gramme of alkaloids. 2 cubic centimetres of the Compound Tincture after evaporation should leave a residue which imparts a yellow colour to *chloroform*.

Dose.—½ to 1 fluid drachm.

TINCTURA CINNAMOMI.

Tincture of Cinnamon.

	IMPERIAL	METRIC
Cinnamon Bark, in No. 40 powder	4 ounces	200 grammes
Alcohol (70 per cent.)	a sufficient quantity	

Moisten the powder with four fluid ounces (or two hundred cubic centimetres) of the Alcohol, and complete the percolation process. The resulting Tincture should measure one pint (or one thousand cubic centimetres).

Dose.—½ to 1 fluid drachm.

TINCTURA COCCI.

Tincture of Cochineal.

	IMPERIAL	METRIC
Cochineal, in powder	2 ounces	100 grammes
Alcohol (45 per cent.)	1 pint	1000 cubic centimetres

Prepare by the maceration process.

Dose.—5 to 15 minims.

TINCTURA COLCHICI SEMINUM.

Tincture of Colchicum Seeds.

	IMPERIAL	METRIC
Colchicum Seeds, in No. 30 powder	4 ounces	200 grammes
Alcohol (45 per cent.)	a sufficient quantity	

Moisten the powder with two and a half fluid ounces (or one hundred and twenty-five cubic centimetres) of the Alcohol, and complete the percolation process. The resulting Tincture should measure one pint (or one thousand cubic centimetres).

Dose.—5 to 15 minims.

This preparation is made with rather more than one and a half times the proportion of Colchicum Seeds ordered for the corresponding preparation in the British Pharmacopœia of 1885.

TINCTURA CONII.

Tincture of Conium.

	IMPERIAL	METRIC
Conium Fruit, recently reduced to No. 40 powder	4 ounces	200 grammes
Alcohol (70 per cent.)	a sufficient quantity	

Moisten the powder with four fluid ounces (or two hundred cubic centimetres) of the Alcohol, and complete the percolation process. The resulting Tincture should measure one pint (or one thousand cubic centimetres).

Dose.—½ to 1 fluid drachm.

TINCTURA CROCI.

Tincture of Saffron.

	IMPERIAL	METRIC
Saffron	1 ounce	50 grammes
Alcohol (60 per cent.)	1 pint	1000 cubic centimetres

Prepare by the maceration process.

Dose.—5 to 15 minims.

TINCTURA CUBEBÆ.

Tincture of Cubebs.

	IMPERIAL	METRIC
Cubebs, in powder	4 ounces	200 grammes
Alcohol (90 per cent.)	a sufficient quantity	

Moisten the powder with two fluid ounces (or one hundred cubic centimetres) of the Alcohol, and complete the percolation process. The resulting Tincture should measure one pint (or one thousand cubic centimetres).

Dose.—½ to 1 fluid drachm

TINCTURA DIGITALIS.

Tincture of Digitalis.

	IMPERIAL	METRIC
Digitalis Leaves, in No. 20 powder	2½ ounces	125 grammes
Alcohol (60 per cent.)	a sufficient quantity	

Moisten the powder with two fluid ounces (or one hundred cubic centimetres) of the Alcohol, and complete the percolation process. The resulting Tincture should measure one pint (or one thousand cubic centimetres).

Dose.—5 to 15 minims.

TINCTURA ERGOTÆ AMMONIATA.

Ammoniated Tincture of Ergot.

	IMPERIAL	METRIC
Ergot, in No. 20 powder	5 ounces	250 grammes
Solution of Ammonia	2 fl. ounces	100 cubic centimetres
Alcohol (60 per cent.)	a sufficient quantity	

Mix the Solution of Ammonia with eighteen fluid ounces (or nine hundred cubic centimetres) of the Alcohol; moisten the powder with two fluid ounces (or one hundred cubic centimetres) of this mixture, and percolate with the remainder; press the marc; mix the expressed liquid with the percolate; add enough of the Alcohol to form one pint (or one thousand cubic centimetres) of the Tincture; set aside for twenty-four hours; filter.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

TINCTURA FERRI PERCHLORIDI.

Tincture of Ferric Chloride.

	IMPERIAL	METRIC
Strong Solution of Ferric Chloride	5 fl. ounces	250 cubic centimetres
Alcohol (90 per cent.)	5 fl. ounces	250 cubic centimetres
Distilled Water	a sufficient quantity	

Mix the Strong Solution of Ferric Chloride with the Alcohol; add sufficient Distilled Water to produce one pint (or one thousand cubic centimetres) of the Tincture.

Dose.—5 to 15 minims.

TINCTURA GELSEMII.

Tincture of Gelsemium.

	IMPERIAL	METRIC
Gelsemium Root, in No. 40 powder	2 ounces	100 grammes
Alcohol (60 per cent.)	a sufficient quantity	

Moisten the powder with one fluid ounce (or fifty cubic centimetres) of the Alcohol, and complete the percolation process. The resulting Tincture should measure one pint (or one thousand cubic centimetres).

Dose.—5 to 15 minims.

TINCTURA GENTIANÆ COMPOSITA.

Compound Tincture of Gentian.

	IMPERIAL	METRIC
Gentian Root, cut small and well bruised .	2 ounces .	100 grammes
Dried Bitter-Orange Peel, well bruised .	$\frac{3}{4}$ ounce .	37·5 grammes
Cardamom Seeds, bruised	$\frac{1}{4}$ ounce .	12·5 grammes
Alcohol (45 per cent.)	1 pint .	1000 cubic centimetres

Prepare by the maceration process.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

TINCTURA GUAIACI AMMONIATA.

Ammoniated Tincture of Guaiacum.

	IMPERIAL	METRIC
Guaiacum Resin, in powder . . .	4 ounces .	200 grammes
Oil of Nutmeg . .	30 minims .	3·1 cubic centimetres
Oil of Lemon . .	20 minims .	2·1 cubic centimetres
Strong Solution of Ammonia . .	1$\frac{1}{2}$ fl. ounces .	75 cubic centimetres
Alcohol (90 per cent.) . .	a sufficient quantity	

Mix the Strong Solution of Ammonia with sixteen fluid ounces (or eight hundred cubic centimetres) of the Alcohol; add the Guaiacum Resin; set aside in a closed vessel for forty-eight hours, shaking frequently; filter; dissolve the Oil of Lemon and Oil of Nutmeg in the filtrate, and pass sufficient of the Alcohol through the filter to produce one pint (or one thousand cubic centimetres) of the Tincture.

Dose.—½ to 1 fluid drachm.

TINCTURA HAMAMELIDIS.

Tincture of Hamamelis.

	IMPERIAL	METRIC
Hamamelis Bark, in No. 20 powder . . .	2 ounces .	100 grammes
Alcohol (45 per cent.) . .	a sufficient quantity	

Moisten the powder with one fluid ounce (or fifty cubic centimetres) of the Alcohol, and complete the percolation process. The resulting Tincture should measure one pint (or one thousand cubic centimetres).

Dose.—½ to 1 fluid drachm.

TINCTURA HYDRASTIS.

Tincture of Hydrastis.

	IMPERIAL	METRIC
Hydrastis Rhizome, in No. 60 powder .	2 ounces .	100 grammes
Alcohol (60 per cent.) . .	a sufficient quantity	

Moisten the powder with two fluid ounces (or one hundred cubic centimetres) of the Alcohol, and complete the percolation process. The resulting Tincture should measure one pint (or one thousand cubic centimetres).

Dose.—½ to 1 fluid drachm.

TINCTURA HYOSCYAMI.

Tincture of Hyoscyamus.

	IMPERIAL	METRIC
Hyoscyamus Leaves and flowering tops, in No. 20 powder . . .	2 ounces .	100 grammes
Alcohol (45 per cent.) . .	a sufficient quantity	

Moisten the powder with two fluid ounces (or one hundred cubic centimetres) of the Alcohol, and complete the percolation process. The resulting Tincture should measure one pint (or one thousand cubic centimetres).

Dose.—½ to 1 fluid drachm.

TINCTURA IODI.

Tincture of Iodine.

	IMPERIAL	METRIC
Iodine . .	½ ounce . .	25 grammes
Potassium Iodide	½ ounce . .	25 grammes
Distilled Water	½ fl. ounce . .	25 cubic centimetres
Alcohol (90 per cent.) .	a sufficient quantity	

Place the Iodine and Potassium Iodide in a bottle with the Distilled Water; when solution has been effected, add a sufficient quantity of the Alcohol to produce one pint (or one thousand cubic centimetres) of the Tincture.

Test.—If 10 cubic centimetres of the Tincture be diluted with 20 cubic centimetres of *water*, it should require, for complete decoloration, 19·6 cubic centimetres of the *volumetric solution of sodium thiosulphate.*

Dose.—2 to 5 minims.

TINCTURA JABORANDI.

Tincture of Jaborandi.

	IMPERIAL	METRIC
Jaborandi Leaves, in No. 40 powder .	4 ounces . .	200 grammes
Alcohol (45 per cent.) .	a sufficient quantity	

Moisten the powder with two and a half fluid ounces (or one hundred and twenty-five cubic centimetres) of the Alcohol, and complete the percolation process. The resulting Tincture should measure one pint (or one thousand cubic centimetres).

Dose.—½ to 1 fluid drachm.

TINCTURA JALAPÆ.

Tincture of Jalap.

	IMPERIAL	METRIC
Jalap, in No. 40 powder	4 ounces	200 grammes
Alcohol (70 per cent.)	a sufficient quantity	

Moisten the powder with two fluid ounces (or one hundred cubic centimetres) of the Alcohol; pack in a percolator; gradually add more of the Alcohol until twelve fluid ounces (or six hundred cubic centimetres) of percolate has been collected; subject the marc to pressure; add the expressed liquid to the percolate; set aside for twenty-four hours; filter.

Determine the amount of Jalap Resin present in ten cubic centimetres of the resulting strong tincture by the process described under 'Jalapæ Resina,' and dilute the remainder of the strong tincture with a sufficient quantity of the Alcohol to produce a Tincture containing 1·5 grammes of the Resin in one hundred cubic centimetres.

Test.—Treated as described under 'Jalapæ Resina,' 10 cubic centimetres of the Tincture should yield not less than 0·145 nor more than 0·155 gramme of the Resin.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

TINCTURA KINO.

Tincture of Kino.

	IMPERIAL	METRIC
Kino, in powder	2 ounces	100 grammes
Glycerin	3 fl. ounces	150 cubic centimetres
Distilled Water	5 fl. ounces	250 cubic centimetres
Alcohol (90 per cent.)	a sufficient quantity	

Mix the Glycerin and the Distilled Water; rub the Kino in a mortar with a sufficient quantity of the mixture to form a smooth paste, gradually adding the remainder of the mixture; transfer to a closed vessel; add ten fluid ounces (or five hundred cubic centimetres) of the Alcohol; set aside for twelve hours, frequently agitating; filter through a plug of cotton wool; pass sufficient of the Alcohol through the filter to produce one pint (or one thousand cubic centimetres) of the Tincture.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

TINCTURA KRAMERIÆ.

Tincture of Krameria.

Synonym.—Tincture of Rhatany.

	IMPERIAL	METRIC
Krameria Root, in No. 40 powder	4 ounces	200 grammes
Alcohol (60 per cent.)	a sufficient quantity	

Moisten the powder with two fluid ounces (or one hundred cubic centimetres) of the Alcohol, and complete the percolation process. The resulting Tincture should measure one pint (or one thousand cubic centimetres).

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

TINCTURA LAVANDULÆ COMPOSITA.

Compound Tincture of Lavender.

	IMPERIAL	METRIC
Oil of Lavender	45 minims	4·7 cubic centimetres
Oil of Rosemary	5 minims	0·5 cubic centimetre
Cinnamon Bark, bruised	75 grains	8·5 grammes
Nutmeg, bruised	75 grains	8·5 grammes
Red Sanders Wood	150 grains	17 grammes
Alcohol (90 per cent.)	1 pint	1000 cubic centimetres

Prepare by the maceration process, adding the Oils at the completion of the process.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

TINCTURA LIMONIS.

Tincture of Lemon.

	IMPERIAL	METRIC
Fresh Lemon Peel, cut small	5 ounces	250 grammes
Alcohol (90 per cent.)	1 pint	1000 cubic centimetres

Prepare by the maceration process.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

TINCTURA LOBELIÆ ÆTHEREA.

Ethereal Tincture of Lobelia.

	IMPERIAL	METRIC
Lobelia, in No. 40 powder	4 ounces	200 grammes
Spirit of Ether	a sufficient quantity	

Moisten the powder with two fluid ounces (or one hundred cubic centimetres) of Spirit of Ether, and complete the percolation process. The resulting Tincture should measure one pint (or one thousand cubic centimetres).

Dose.—5 to 15 minims.

This preparation is made with rather more than one and a half times the proportion of Lobelia ordered for the corresponding preparation in the British Pharmacopœia of 1885.

TINCTURA LUPULI.

Tincture of Hops.

	IMPERIAL	METRIC
Hops	4 ounces	200 grammes
Alcohol (60 per cent.)	1 pint	1000 cubic centimetres

Prepare by the maceration process.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

TINCTURA MYRRHÆ.

Tincture of Myrrh.

	IMPERIAL	METRIC
Myrrh, in coarse powder	4 ounces	200 grammes
Alcohol (90 per cent.)	a sufficient quantity	

Place the Myrrh with sixteen fluid ounces (or eight hundred cubic centimetres) of the Alcohol in a closed vessel set aside for seven days, with frequent agitation; filter; when the liquid ceases to drop, pass sufficient of the Alcohol through the filter to produce one pint (or one thousand cubic centimetres) of the Tincture.

Dose.—$\frac{1}{2}$ to 1 fluid drachm.

TINCTURA NUCIS VOMICÆ.

[illegible]

Tincture of Nux Vomica.

	IMPERIAL	METRIC
Liquid Extract of Nux Vomica	2 fl. ounces	100 cubic centimetres
Distilled Water	3 fl. ounces	150 cubic centimetres
Alcohol (90 per cent.)	a sufficient quantity	

Mix the Liquid Extract of Nux Vomica with the Distilled Water; add sufficient of the Alcohol to produce twelve fluid ounces (or six hundred cubic centimetres) of the Tincture; filter.

Tests.—Treated by the assay process given under 'Extractum Nucis Vomicæ Liquidum,' 100 cubic centimetres should yield not less than 0·24 nor more than 0·26 gramme of Strychnine, corresponding to about $\frac{1}{8}$ grain in 1 fluid drachm or $\frac{1}{4}$ grain in 110 minims.

Dose.—5 to 15 minims.

This preparation contains about twice the proportion of Strychnine present in the Tincture of Nux Vomica of the British Pharmacopœia of 1885.

TINCTURA OPII.

Tincture of Opium.

Synonym.—Laudanum.

	IMPERIAL	METRIC
Opium	3 ounces	150 grammes
Alcohol (90 per cent.) Distilled Water	of each a sufficient quantity	

Rub the Opium to a paste with ten fluid ounces (or five hundred cubic centimetres) of Distilled Water, previously heated to at least 200° F. (93·3° C.); set aside for six hours; add ten fluid ounces (or five hundred cubic centimetres) of the Alcohol; mix thoroughly; set aside in a covered vessel for twenty-four hours; strain; press; mix the liquids; set aside for twenty-four hours; filter.

Determine the proportion of morphine in the resulting strong tincture by the following process: Pour 80 cubic centimetres of the liquid into a porcelain dish; evaporate on a water-bath until the volume is reduced to 30 cubic centimetres; mix the residual liquid in a mortar with 3 grammes of freshly slaked *lime*; dilute the mixture with *water* to 85 cubic centimetres; set aside for half an hour, stirring occasionally. Filter off 50 cubic centimetres of the liquid (representing 50 cubic centimetres of the strong tincture) through a plaited filter, having a diameter of about one decimetre, into a wide-mouthed stoppered bottle, having a capacity of two hundred cubic centimetres; add 5 cubic centimetres of *alcohol* (90 per cent.) and 30 cubic centimetres of *ether*; shake the mixture; add 2 grammes of *ammonium chloride*; shake well and frequently during half an hour; set aside for 12 hours for the morphine to separate. Counterbalance two small filters; place one within the other in a small funnel in such a way that the triple fold of the inner filter shall be superposed upon the single fold of the outer filter; wet them with *ether*; remove the ethereal layer of the liquid in the bottle as completely as possible by means of a small pipette, and transfer it to the filter; pour into the bottle 15 cubic centimetres of *ether*; rotate the contents and set the bottle aside; transfer the separated ethereal layer carefully, by means of the pipette, to the filter; wash the filter with a total amount of 10 cubic centimetres of *ether* added slowly, and in portions; let the filter dry in the air; pour upon it the liquid in the bottle, in portions, in such a way as to transfer the granular crystalline morphine as completely as possible to the filter. When all the liquid has passed through, wash the remainder of the morphine from the bottle with *morphinated water*, until the whole has been removed. Wash the crystals with *morphinated water* until the washings are free from colour; allow the filter to drain; dry it, first by gentle pressure between sheets of bibulous paper; afterwards at a temperature between 131° and 140° F. (55° and 60° C.), finally at 230° F. (110° C.) for 2 hours. Weigh the crystals in the inner filter, counterbalancing by the outer filter. Take 0·3 gramme of the crystals, and titrate with *decinormal volumetric solution of sulphuric acid*, as directed under Opium.

Add to the weight of anhydrous morphine, indicated by the titration, 0·05 gramme (or 0·1 gramme for every 100 cubic centimetres of the original filtrate, should more than 50 cubic centimetres have been used for the estimation), a proportion representing the average loss of morphine during the process.

Having ascertained the proportion of morphine, calculated as anhydrous, present in the 50 cubic centimetres of strong tincture, the remainder is to be diluted with sufficient of a mixture of Alcohol (90 per cent.) and Distilled Water, in equal volumes, to produce a Tincture of Opium containing 0·75 gramme of morphine, calculated as anhydrous, in 100 cubic centimetres.

Tests.—Treated by the foregoing process, Tincture of Opium should yield an amount of morphine, reckoned as anhydrous, corresponding to not less than 0·70 gramme, nor more than 0·80 gramme, in one hundred cubic centimetres.

Dose.—5 to 15 minims, for repeated administration; for a single administration, 20 to 30 minims.

This preparation contains, on an average, the soluble matter of 32·8 grains of Opium (containing 10 per cent. of morphine, calculated as anhydrous) in 1 fluid ounce, or of about 1 grain of such Opium in 15 minims.

Tincture of Opium may be prepared with any variety of opium containing a known percentage of morphine, calculated as anhydrous, provided that the percentage be not less than seven and a half, and provided that the resulting Tincture of Opium respond to the foregoing quantitative test.

TINCTURA OPII AMMONIATA.

Ammoniated Tincture of Opium.

	IMPERIAL	METRIC
Tincture of Opium . .	3 fl. ounces .	150 cubic centimetres
Benzoic Acid .	180 grains .	20·6 grammes
Oil of Anise .	1 fl. drachm .	6·25 cubic centimetres
Solution of Ammonia .	4 fl. ounces .	200 cubic centimetres
Alcohol (90 per cent.) . .	. a sufficient quantity	

Dissolve the Oil of Anise and the Benzoic Acid in twelve fluid ounces (or six hundred cubic centimetres) of the Alcohol; add the Tincture of Opium and the Solution of Ammonia; mix well; filter; add enough of the Alcohol to form one pint (or one thousand cubic centimetres) of the Tincture.

Dose.—½ to 1 fluid drachm.

This preparation contains the soluble matter of nearly 0·62 grain of Opium (containing 10 per cent. of morphine, reckoned as anhydrous) in 1 fluid drachm, or of nearly 5 grains of such Opium in 1 fluid ounce.

TINCTURA PODOPHYLLI.

Tincture of Podophyllum.

	IMPERIAL	METRIC
Podophyllum Resin .	320 grains .	36·5 grammes
Alcohol (90 per cent.) .	. a sufficient quantity	

Add the Podophyllum Resin to eighteen fluid ounces (or nine hundred cubic centimetres) of the Alcohol, and set aside for twenty-four hours, occasionally agitating; filter;

pass sufficient of the Alcohol through the filter to produce one pint (or one thousand cubic centimetres) of the Tincture.

Dose.—5 to 15 minims.

This Tincture contains twice the proportion of Podophyllum Resin ordered for the corresponding preparation in the British Pharmacopœia of 1885.

TINCTURA PRUNI VIRGINIANÆ.

Tincture of Virginian Prune.

	IMPERIAL	METRIC
Virginian Prune Bark, in No. 20 powder	4 ounces	200 grammes
Alcohol (90 per cent.)	12½ fl. ounces	625 cubic centimetres
Distilled Water	7½ fl. ounces	375 cubic centimetres

Mix the powder with the Distilled Water; set aside in a closed vessel for twenty-four hours; add the Alcohol, and complete the maceration process.

Dose.—½ to 1 fluid drachm.

TINCTURA PYRETHRI.

Tincture of Pyrethrum.

	IMPERIAL	METRIC
Pyrethrum Root, in No. 40 powder	4 ounces	200 grammes
Alcohol (70 per cent.)	a sufficient quantity	

Moisten the powder with three fluid ounces (or one hundred and fifty cubic centimetres) of the Alcohol, and complete the percolation process. The resulting Tincture should measure one pint (or one thousand cubic centimetres).

TINCTURA QUASSIÆ.

Tincture of Quassia.

	IMPERIAL	METRIC
Quassia Wood, rasped	2 ounces	100 grammes
Alcohol (45 per cent.)	1 pint	1000 cubic centimetres

Prepare by the maceration process.

Dose.—½ to 1 fluid drachm.

[illegible] Carduus [illegible]

TINCTURA QUILLAIÆ.

Tincture of Quillaia.

	IMPERIAL	METRIC
Quillaia Bark, in No. 20 powder	1 ounce	50 grammes
Alcohol (60 per cent.)	a sufficient quantity	

Moisten the powder with half a fluid ounce (or twenty-five cubic centimetres) of the Alcohol, and complete the percolation process. The resulting Tincture should measure one pint (or one thousand cubic centimetres).

Dose.—½ to ~~1 fluid drachm.~~

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TINCTURA QUININÆ.

Tincture of Quinine.

	IMPERIAL	METRIC
Quinine Hydrochloride	175 grains	20 grammes
Tincture of Orange	1 pint	1000 cubic centimetres

Dissolve the Quinine Hydrochloride in the Tincture of Orange.

Dose.—½ to 1 fluid drachm.

TINCTURA QUININÆ AMMONIATA.

Ammoniated Tincture of Quinine.

	IMPERIAL	METRIC
Quinine Sulphate	175 grains	20 grammes
Solution of Ammonia	2 fl. ounces	100 cubic centimetres
Alcohol (60 per cent.)	18 fl. ounces	900 cubic centimetres

Mix the Solution of Ammonia with the Alcohol; add the Quinine Sulphate; shake until a clear solution is produced; set aside for three days; filter.

Dose.—½ to 1 fluid drachm.

TINCTURA RHEI COMPOSITA.

Compound Tincture of Rhubarb.

	IMPERIAL	METRIC
Rhubarb Root, in No. 20 powder	2 ounces	100 grammes
Cardamom Seeds, bruised	¼ ounce	12·5 grammes
Coriander Fruit, bruised	¼ ounce	12·5 grammes
Glycerin	2 fl. ounces	100 cubic centimetres
Alcohol (60 per cent.)	a sufficient quantity	

Moisten the solid ingredients with two fluid ounces (or one hundred cubic centimetres) of the Alcohol; proceed with the percolation process until a volume of eighteen fluid ounces (or nine hundred cubic centimetres) of liquid has been obtained; agitate; set aside for forty-eight hours; filter; mix with the Glycerin.

Dose.—½ to 1 fluid drachm, for repeated administration; for a single administration, 2 to 4 fluid drachms.

TINCTURA SCILLÆ.

Tincture of Squill.

	IMPERIAL	METRIC
Squill, bruised	4 ounces	200 grammes
Alcohol (60 per cent.)	1 pint	1000 cubic centimetres

Prepare by the maceration process.

Dose.—5 to 15 minims.

TINCTURA SENEGÆ.

Tincture of Senega.

	IMPERIAL	METRIC
Senega Root, in No. 40 powder	4 ounces	200 grammes
Alcohol (60 per cent.)	a sufficient quantity	

Moisten the powder with four fluid ounces (or two hundred cubic centimetres) of the Alcohol, and complete the percolation process. The resulting Tincture should measure one pint (or one thousand cubic centimetres).

Dose.—½ to 1 fluid drachm.

TINCTURA SENNÆ COMPOSITA.

Compound Tincture of Senna.

	IMPERIAL	METRIC
Senna, broken small	4 ounces	200 grammes
Raisins of commerce, freed from seeds	2 ounces	100 grammes
Caraway Fruit, bruised	½ ounce	25 grammes
Coriander Fruit, bruised	½ ounce	25 grammes
Alcohol (45 per cent.)	1 pint	1000 cubic centimetres

Prepare by the maceration process.

Dose.—½ to 1 fluid drachm, for repeated administration; for a single administration, 2 to 4 fluid drachms.

TINCTURA SERPENTARIÆ.

Tincture of Serpentary.

	IMPERIAL	METRIC
Serpentary Rhizome, in No. 40 powder	4 ounces	200 grammes
Alcohol (70 per cent.)	a sufficient quantity	

Moisten the powder with four fluid ounces (or two hundred cubic centimetres) of the Alcohol, and complete the percolation process. The resulting Tincture should measure one pint (or one thousand cubic centimetres).

Dose.—½ to 1 fluid drachm.

TINCTURA STRAMONII.

Tincture of Stramonium.

	IMPERIAL	METRIC
Stramonium Leaves, in No. 20 powder	4 ounces	200 grammes
Alcohol (45 per cent.)	a sufficient quantity	

Moisten the powder with four fluid ounces (or two hundred cubic centimetres) of the Alcohol, and complete the percolation process. The resulting Tincture should measure one pint (or one thousand cubic centimetres).

Dose.—5 to 15 minims.

TINCTURA STROPHANTHI.

Tincture of Strophanthus.

	IMPERIAL	METRIC
Strophanthus Seeds, in No. 30 powder	½ ounce .	25 grammes
Alcohol (70 per cent.) . .	a sufficient quantity	

Pack the powder in a percolator; moisten it with one fluid drachm (or six cubic centimetres) of the Alcohol; set aside for forty-eight hours; pour on successive quantities of the Alcohol, allowing percolation to proceed slowly, until a total volume of ten fluid ounces (or five hundred cubic centimetres) of percolate has been obtained; filter; add a sufficient quantity of the Alcohol to produce one pint (or one thousand cubic centimetres) of the Tincture.

Dose.—5 to 15 minims.

This preparation is made with half the proportion of Strophanthus Seeds ordered for the corresponding preparation in the British Pharmacopœia of 1885 (Additions 1890).

TINCTURA SUMBUL.

Tincture of Sumbul.

	IMPERIAL	METRIC
Sumbul Root, bruised .	2 ounces .	100 grammes
Alcohol (70 per cent.) .	1 pint .	1000 cubic centimetres

Prepare by the maceration process.

Dose.—½ to 1 fluid drachm.

TINCTURA TOLUTANA.

Tincture of Balsam of Tolu.

	IMPERIAL	METRIC
Balsam of Tolu . .	2 ounces .	100 grammes
Alcohol (90 per cent.) . .	a sufficient quantity	

Place the Balsam of Tolu in sixteen fluid ounces (or eight hundred cubic centimetres) of the Alcohol; set aside in a closed vessel; agitate occasionally; when the Balsam is dissolved, filter; pass sufficient of the Alcohol through the filter to produce one pint (or one thousand cubic centimetres) of the Tincture.

Dose.—½ to 1 fluid drachm.

TINCTURA VALERIANÆ AMMONIATA.

Ammoniated Tincture of Valerian.

	IMPERIAL	METRIC
Valerian Rhizome, in No. 40 powder .	4 ounces .	200 grammes
Oil of Nutmeg . .	30 minims .	3·1 cubic centimetres
Oil of Lemon . .	20 minims .	2·1 cubic centimetres
Solution of Ammonia .	2 fl. ounces .	100 cubic centimetres
Alcohol (60 per cent.)	18 fl. ounces .	900 cubic centimetres

Mix the liquid ingredients, and prepare by the maceration process.

Dose.—½ to 1 fluid drachm.

TINCTURA ZINGIBERIS.

Tincture of Ginger.

	IMPERIAL	METRIC
Ginger, in No. 40 powder	2 ounces .	100 grammes
Alcohol (90 per cent.) .	. a sufficient quantity	

Moisten the powder with two fluid ounces (or one hundred cubic centimetres) of the Alcohol, and complete the percolation process. The resulting Tincture should measure one pint (or one thousand cubic centimetres).

Dose.—½ to 1 fluid drachm.

TRAGACANTHA.

Tragacanth.

A gummy exudation obtained by incision from Astragalus gummifer, *Labill.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 73], and some other species of Astragalus, *Linn.* Known in commerce as Syrian tragacanth.

Characters and Test.—White or pale yellowish-white flattened flakes, of varying length and breadth; frequently about one inch (two and a half centimetres) long and half an inch (twelve millimetres) wide; thin, irregularly oblong or more or less curved, and marked on the surface by concentric ridges. They are somewhat translucent, horny, break with a short fracture, and are inodorous and almost tasteless. Tragacanth is sparingly soluble in *water*, but swells into a gelatinous mass, which may be tinged violet or blue by *solution of iodine*.

TROCHISCUS ACIDI BENZOICI.

Benzoic Acid Lozenge.

	IMPERIAL	METRIC
Benzoic Acid . .	½ grain . .	0·0324 gramme

Mix with the Fruit Basis to form a Lozenge.

TROCHISCUS ACIDI CARBOLICI.

Phenol Lozenge.

	IMPERIAL	METRIC
Phenol . .	1 grain . .	0·0648 gramme

Mix with the Tolu Basis to form a Lozenge.

TROCHISCUS ACIDI TANNICI.

Tannic Acid Lozenge.

	IMPERIAL	METRIC
Tannic Acid . .	½ grain . .	0·0324 gramme

Mix with the Fruit Basis to form a Lozenge.

TROCHISCUS BISMUTHI COMPOSITUS.

Compound Bismuth Lozenge.

	IMPERIAL	METRIC
Bismuth Oxycarbonate . .	2 grains .	0·1296 gramme
Heavy Magnesium Carbonate	2 grains .	0·1296 gramme
Precipitated Calcium Carbonate . .	4 grains .	0·2592 gramme

Mix with the Rose Basis to form a Lozenge.

TROCHISCUS CATECHU.

Catechu Lozenge.

	IMPERIAL	METRIC
Catechu . . .	1 grain . .	0·0648 gramme

Mix with the Simple Basis to form a Lozenge.

TROCHISCUS EUCALYPTI GUMMI.

Eucalyptus Gum Lozenge.

	IMPERIAL	METRIC
Eucalyptus Gum .	1 grain . .	0·0648 gramme

Mix with the Fruit Basis to form a Lozenge.

TROCHISCUS FERRI REDACTI.

Reduced Iron Lozenge.

	IMPERIAL	METRIC
Reduced Iron .	1 grain . . .	0·0648 gramme

Mix with the Simple Basis to form a Lozenge.

TROCHISCUS GUAIACI RESINÆ.

Guaiacum Resin Lozenge.

	IMPERIAL	METRIC
Guaiacum Resin .	3 grains . .	0·1944 gramme

Mix with the Fruit Basis to form a Lozenge.

TROCHISCUS IPECACUANHÆ.

Ipecacuanha Lozenge.

	IMPERIAL	METRIC
Ipecacuanha Root, in powder	$\frac{1}{4}$ grain	0·0162 gramme

Mix with the Fruit Basis to form a Lozenge.

TROCHISCUS KRAMERIÆ.

Krameria Lozenge.

Synonym.—Rhatany Lozenge.

	IMPERIAL	METRIC
Extract of Krameria	1 grain	0·0648 gramme

Mix with the Fruit Basis to form a Lozenge.

TROCHISCUS KRAMERIÆ ET COCAINÆ.

Krameria and Cocaine Lozenge.

Synonym.—Rhatany and Cocaine Lozenge.

	IMPERIAL	METRIC
Extract of Krameria	1 grain	0·0648 gramme
Cocaine Hydrochloride	$\frac{1}{20}$ grain	0·00324 gramme

Mix with the Fruit Basis to form a Lozenge.

TROCHISCUS MORPHINÆ.

Morphine Lozenge.

	IMPERIAL.	METRIC
Morphine Hydrochloride	$\frac{1}{36}$ grain	0·0018 gramme

Mix with the Tolu Basis to form a Lozenge.

TROCHISCUS MORPHINÆ ET IPECACUANHÆ.

Morphine and Ipecacuanha Lozenge.

	IMPERIAL	METRIC
Morphine Hydrochloride	$\frac{1}{36}$ grain	0·0018 gramme
Ipecacuanha Root, in powder	$\frac{1}{12}$ grain	0·0054 gramme

Mix with the Tolu Basis to form a Lozenge.

TROCHISCUS POTASSII CHLORATIS.

Potassium Chlorate Lozenge.

	IMPERIAL	METRIC
Potassium Chlorate .	3 grains .	0·1944 gramme

Mix with the Rose Basis to form a Lozenge.

TROCHISCUS SANTONINI.

Santonin Lozenge.

	IMPERIAL	METRIC
Santonin . . .	1 grain . .	0·0648 gramme

Mix with the Simple Basis to form a Lozenge.

TROCHISCUS SODII BICARBONATIS.

Sodium Bicarbonate Lozenge.

	IMPERIAL	METRIC
Sodium Bicarbonate .	3 grains . .	0·1944 gramme

Mix with the Rose Basis to form a Lozenge.

TROCHISCUS SULPHURIS.

Sulphur Lozenge.

	IMPERIAL	METRIC
Precipitated Sulphur .	2500 grains .	162 grammes
Acid Potassium Tartrate, in powder .	500 grains .	32·4 grammes
Refined Sugar, in powder	4000 grains .	259·2 grammes
Gum Acacia, in powder	500 grains .	32·4 grammes
Tincture of Orange .	500 minims .	29·5 cubic centimetres
Mucilage of Gum Acacia	500 minims .	29·5 cubic centimetres

Mix the Tincture of Orange with the powders; add the Mucilage of Gum Acacia to form a suitable mass. Divide into five hundred Lozenges. Dry them in a hot-air chamber at a moderate temperature.

Each Lozenge contains 5 grains (0·324 gramme) of Precipitated Sulphur.

UNGUENTUM ACIDI BORICI.

Boric Acid Ointment.

	IMPERIAL	METRIC
Boric Acid, in very fine powder, carefully sifted . . .	1 ounce .	30 grammes
Paraffin Ointment, white . .	9 ounces .	270 grammes

Mix.

UNGUENTUM ACIDI CARBOLICI.

Phenol Ointment.

Ointment of Carbolic Acid, Brit. Pharm. 1885.

	IMPERIAL	METRIC
Phenol	½ ounce . .	15 grammes
Glycerin . . .	1½ ounces .	45 grammes
Paraffin Ointment, white	10½ ounces .	315 grammes

Dissolve the Phenol in the Glycerin; add the Paraffin Ointment; mix.

UNGUENTUM ACIDI SALICYLICI.

Salicylic Acid Ointment.

	IMPERIAL	METRIC
Salicylic Acid, in powder .	10 grains .	0·5 gramme
Paraffin Ointment, white .	490 grains .	24·5 grammes

Mix.

UNGUENTUM ACONITINÆ.

Aconitine Ointment.

	IMPERIAL	METRIC
Aconitine . .	10 grains .	0·5 gramme
Oleic Acid . .	80 grains .	4 grammes
Lard . . .	410 grains .	20·5 grammes

Rub the Aconitine with the Oleic Acid, and gently warm the mixture until dissolved; add the Lard; mix.

UNGUENTUM AQUÆ ROSÆ.

Rose-Water Ointment.

	IMPERIAL	METRIC
Rose Water, undiluted .	7 fl. ounces .	210 cubic centimetres
White Beeswax .	1½ ounces .	45 grammes
Spermaceti .	1½ ounces .	45 grammes
Almond Oil .	9 ounces .	270 grammes
Oil of Rose . .	8 minims .	0·5 cubic centimetre

Melt together the White Beeswax, Spermaceti, and Almond Oil; pour the mixture into a warmed mortar and add the Rose Water gradually with constant trituration; add the Oil of Rose; continue the trituration until cold.

UNGUENTUM ATROPINÆ.

Atropine Ointment.

	IMPERIAL	METRIC
Atropine . .	10 grains .	0·5 gramme
Oleic Acid . .	40 grains .	2 grammes
Lard . . .	450 grains .	22·5 gramm

Rub the Atropine with the Oleic Acid, and gently warm the mixture until dissolved; add the Lard; mix.

UNGUENTUM BELLADONNÆ.

Belladonna Ointment.

	IMPERIAL	METRIC
Liquid Extract of Belladonna	2 fl. ounces	40 cubic centimetres
Benzoated Lard . . .	2¼ ounces	45 grammes

Evaporate the Liquid Extract of Belladonna on a water-bath until it is reduced to a quarter of an ounce (or five grammes); add the Benzoated Lard; mix.

100 parts of this Ointment should contain 0·6 part of the alkaloids of Belladonna Root.

UNGUENTUM CANTHARIDIS.

Cantharides Ointment.

	IMPERIAL	METRIC
Cantharides, bruised	1 ounce	30 grammes
Benzoated Lard	10 ounces	300 grammes

Melt the Benzoated Lard, add the Cantharides, and digest at a temperature of about 120° F. (48·9° C.) for twelve hours. Strain through calico and press the residue gently; stir until cold.

UNGUENTUM CAPSICI.

Capsicum Ointment.

	IMPERIAL	METRIC
Capsicum Fruit, bruised	120 grains	12 grammes
Spermaceti	60 grains	6 grammes
Olive Oil	1 ounce	44 grammes

Digest on a water-bath for one hour, occasionally stirring; strain; set aside to cool, without stirring.

UNGUENTUM CETACEI.

Spermaceti Ointment.

	IMPERIAL	METRIC
Spermaceti	20 ounces	200 grammes
White Beeswax	8 ounces	80 grammes
Almond Oil	72 ounces	720 grammes
Benzoin, in coarse powder	2 ounces	20 grammes

Melt together the Spermaceti, Beeswax, and Almond Oil; add the Benzoin, and, frequently stirring the mixture, continue the application of heat for two hours; remove from the source of heat; strain; and stir the Ointment constantly until cold.

UNGUENTUM CHRYSAROBINI.

Chrysarobin Ointment.

	IMPERIAL	METRIC
Chrysarobin	20 grains	2 grammes
Benzoated Lard	480 grains	48 grammes

Triturate the Chrysarobin gradually with the Benzoated Lard, previously melted by heat; continue the heat until the Chrysarobin is dissolved; stir until cold.

UNGUENTUM COCAINÆ.

Cocaine Ointment.

	IMPERIAL	METRIC
Cocaine	20 grains	1 gramme
Oleic Acid	80 grains	4 grammes
Lard	400 grains	20 grammes

Rub the Cocaine with the Oleic Acid, and gently warm the mixture until dissolved; add the Lard; mix.

UNGUENTUM CONII.

Conium Ointment.

	IMPERIAL	METRIC
Juice of Conium	2 fl. ounces	88 cubic centimetres
Hydrous Wool Fat	¾ ounce	33 grammes

Evaporate the Juice of Conium on a water-bath to one eighth of its volume, at a temperature not exceeding 140° F. (60° C.); add the Hydrous Wool Fat; mix by trituration.

UNGUENTUM CREOSOTI.

Creosote Ointment.

	IMPERIAL	METRIC
Creosote	1 ounce	30 grammes
Hard Paraffin	4 ounces	120 grammes
Soft Paraffin, white	5 ounces	150 grammes

Melt the Hard and Soft Paraffins together; add the Creosote; stir until cold.

UNGUENTUM EUCALYPTI.

Eucalyptus Ointment.

	IMPERIAL	METRIC
Oil of Eucalyptus	1 ounce	30 grammes
Hard Paraffin	4 ounces	120 grammes
Soft Paraffin, white	5 ounces	150 grammes

Melt the Hard and Soft Paraffins together; add the Oil of Eucalyptus; stir until cold.

UNGUENTUM GALLÆ.

Gall Ointment.

	IMPERIAL	METRIC
Galls, in very fine powder	1 ounce	30 grammes
Benzoated Lard	4 ounces	120 grammes

Mix by trituration.

UNGUENTUM GALLÆ CUM OPIO.

Gall and Opium Ointment.

	IMPERIAL	METRIC
Gall Ointment	925 grains	92·5 grammes
Opium, in very fine powder	75 grains	7·5 grammes

Mix by trituration.

100 parts of this Ointment contain 7½ parts of Opium.

UNGUENTUM GLYCERINI PLUMBI SUBACETATIS.

Lead Subacetate Ointment.

	IMPERIAL	METRIC
Glycerin of Lead Subacetate	1 ounce	30 grammes
Paraffin Ointment, white	5 ounces	150 grammes

Mix.

UNGUENTUM HAMAMELIDIS.

Hamamelis Ointment.

	IMPERIAL	METRIC
Liquid Extract of Hamamelis	$\frac{1}{4}$ fl. ounce	10 cubic centimetres
Hydrous Wool Fat	$2\frac{1}{4}$ ounces	90 grammes

Mix.

UNGUENTUM HYDRARGYRI.

Mercury Ointment.

	IMPERIAL	METRIC
Mercury	1 pound	160 grammes
Lard	1 pound	160 grammes
Prepared Suet	1 ounce	10 grammes

Triturate until metallic globules cease to be visible.

UNGUENTUM HYDRARGYRI AMMONIATI.

Ammoniated Mercury Ointment.

Synonym.—White Precipitate Ointment.

	IMPERIAL	METRIC
Ammoniated Mercury	1 ounce	30 grammes
Paraffin Ointment, white	9 ounces	270 grammes

Mix.

UNGUENTUM HYDRARGYRI COMPOSITUM.

Compound Mercury Ointment.

	IMPERIAL	METRIC
Mercury Ointment	10 ounces	150 grammes
Yellow Beeswax	6 ounces	90 grammes
Olive Oil	6 ounces	90 grammes
Camphor, in flowers	3 ounces	45 grammes

Mix the Beeswax, Olive Oil, and Mercury Ointment with the aid of heat; add the Camphor; triturate until cold.

UNGUENTUM HYDRARGYRI IODIDI RUBRI.

Mercuric Iodide Ointment.

Synonym.—Ointment of Red Iodide of Mercury.

	IMPERIAL	METRIC
Mercuric Iodide, in fine powder	20 grains	2 grammes
Benzoated Lard	480 grains	48 grammes

Mix.

UNGUENTUM HYDRARGYRI NITRATIS.

Mercuric Nitrate Ointment.

Synonym.—Ointment of Nitrate of Mercury.

	IMPERIAL	METRIC
Mercury	1 ounce	100 grammes
Nitric Acid	3 fl. ounces	300 cubic centimetres
Lard	4 ounces	400 grammes
Olive Oil	7 ounces	700 grammes

Dissolve the Mercury in the Nitric Acid without the aid of heat, agitating gently from time to time. Heat the Lard and Olive Oil together on a sand-bath, so that the mixture when transferred to a heated earthenware jar, capable of holding ten times the quantity, shall be at a temperature of about 290° F. (143·3° C.). Add the cold mercurial solution very gradually, stirring constantly to promote disengagement of the fumes. After frothing has ceased, the mixture, which should have a temperature of not less than 200° F. (93·3° C.), must be kept stirred until it is cold. The resulting Ointment should be firm in consistence and have a pale lemon colour.

UNGUENTUM HYDRARGYRI NITRATIS DILUTUM.

Diluted Mercuric Nitrate Ointment.

Synonym.—Diluted Ointment of Nitrate of Mercury.

	IMPERIAL	METRIC
Mercuric Nitrate Ointment	1 ounce	25 grammes
Soft Paraffin, yellow	4 ounces	100 grammes

Mix.

UNGUENTUM HYDRARGYRI OLEATIS.

Mercuric Oleate Ointment.

	IMPERIAL	METRIC
Mercuric Oleate	1 ounce	20 grammes
Benzoated Lard	3 ounces	60 grammes

Mix.

UNGUENTUM HYDRARGYRI OXIDI FLAVI.

Yellow Mercuric Oxide Ointment.

	IMPERIAL	METRIC
Yellow Mercuric Oxide, in very fine powder	10 grains	0·5 gramme
Soft Paraffin, yellow	490 grains	24·5 grammes

Mix.

UNGUENTUM HYDRARGYRI OXIDI RUBRI.

Red Mercuric Oxide Ointment.

Synonym.—Red Precipitate Ointment.

	IMPERIAL	METRIC
Red Mercuric Oxide, in very fine powder	$\frac{1}{4}$ ounce	10 grammes
Paraffin Ointment, yellow	$2\frac{1}{4}$ ounces	90 grammes

Mix.

UNGUENTUM HYDRARGYRI SUBCHLORIDI.

Mercurous Chloride Ointment.

Synonym.—Calomel Ointment.

	IMPERIAL	METRIC
Mercurous Chloride	¼ ounce	10 grammes
Benzoated Lard	2¼ ounces	90 grammes

Mix.

UNGUENTUM IODI.

Iodine Ointment.

	IMPERIAL	METRIC
Iodine	20 grains	1 gramme
Potassium Iodide	20 grains	1 gramme
Glycerin	60 grains	3 grammes
Lard	400 grains	20 grammes

Triturate the Iodine, Potassium Iodide, and Glycerin, in a glass or porcelain mortar; add the Lard gradually; mix.

UNGUENTUM IODOFORMI.

Iodoform Ointment.

	IMPERIAL	METRIC
Iodoform, in fine powder	¼ ounce	10 grammes
Paraffin Ointment, yellow	2¼ ounces	90 grammes

Mix.

UNGUENTUM PARAFFINI.

Paraffin Ointment.

	IMPERIAL	METRIC
Hard Paraffin	3 ounces	90 grammes
Soft Paraffin	7 ounces	210 grammes

Melt together in a shallow evaporating dish; as the liquid cools triturate constantly, until, when cold, a uniform plastic ointment is produced.

When Paraffin Ointment is used as the basis of white ointments, it should be prepared with the white variety of Soft Paraffin; and when used in coloured ointments it should be prepared with the yellow variety of Soft Paraffin.

The proportions of Hard and Soft Paraffins in Paraffin Ointment may be modified to meet the exigencies of climate and prevailing temperature.

UNGUENTUM PICIS LIQUIDÆ.

Tar Ointment.

	IMPERIAL	METRIC
Tar	5 ounces	100 grammes
Yellow Beeswax	2 ounces	40 grammes

Melt the Beeswax at a low temperature; add the Tar; stir the mixture until cold.

UNGUENTUM PLUMBI ACETATIS.

Lead Acetate Ointment.

	IMPERIAL	METRIC
Lead Acetate, in fine powder	20 grains	2 grammes
Paraffin Ointment, white	480 grains	48 grammes

Mix.

UNGUENTUM PLUMBI CARBONATIS.

Lead Carbonate Ointment.

	IMPERIAL	METRIC
Lead Carbonate, in fine powder	¼ ounce	10 grammes
Paraffin Ointment, white	2¼ ounces	90 grammes

Mix.

UNGUENTUM PLUMBI IODIDI.

Lead Iodide Ointment.

	IMPERIAL	METRIC
Lead Iodide, in fine powder	¼ ounce	10 grammes
Paraffin Ointment, yellow	2¼ ounces	90 grammes

Mix.

UNGUENTUM POTASSII IODIDI.

Potassium Iodide Ointment.

	IMPERIAL	METRIC
Potassium Iodide	50 grains	5 grammes
Potassium Carbonate	3 grains	0·3 gramme
Distilled Water	47 grains	4·7 grammes
Benzoated Lard	400 grains	40 grammes

Dissolve the Potassium Iodide and Potassium Carbonate in the Distilled Water; mix the solution, gradually, with the Benzoated Lard, in a slightly warmed mortar.

UNGUENTUM RESINÆ.

Resin Ointment.

	IMPERIAL	METRIC
Resin, in powder	8 ounces	200 grammes
Yellow Beeswax	8 ounces	200 grammes
Olive Oil	8 ounces	200 grammes
Lard	6 ounces	150 grammes

Add the Lard and Olive Oil to the previously melted Resin and Beeswax; strain; stir until cold.

UNGUENTUM STAPHISAGRIÆ.

Stavesacre Ointment.

	IMPERIAL	METRIC
Stavesacre Seeds	2 ounces	40 grammes
Yellow Beeswax	1 ounce	20 grammes
Benzoated Lard	8½ ounces	170 grammes

Crush the Stavesacre Seeds; digest the crushed seeds with the Benzoated Lard on a water-bath for two hours; strain and press through calico; add the Beeswax to the liquid; heat gently to dissolve; stir until cold.

UNGUENTUM SULPHURIS.

Sulphur Ointment.

	IMPERIAL	METRIC
Sublimed Sulphur, finely sifted	1 ounce	30 grammes
Benzoated Lard	9 ounces	270 grammes

Mix.

UNGUENTUM SULPHURIS IODIDI.

Sulphur Iodide Ointment.

	IMPERIAL	METRIC
Sulphur Iodide	20 grains	2 grammes
Glycerin	20 grains	2 grammes
Benzoated Lard	460 grains	46 grammes

Triturate the Sulphur Iodide and Glycerin in a slightly warmed mortar until a smooth paste results; gradually add the Benzoated Lard; stir until cold.

UNGUENTUM VERATRINÆ.

Veratrine Ointment.

	IMPERIAL	METRIC
Veratrine	10 grains	0·5 gramme
Oleic Acid	40 grains	2 grammes
Lard	450 grains	22·5 grammes

Rub the Veratrine with the Oleic Acid, and gently warm the mixture until dissolved; add the Lard; mix.

UNGUENTUM ZINCI.

Zinc Ointment.

	IMPERIAL	METRIC
Zinc Oxide finely sifted	3 ounces	75 grammes
Benzoated Lard	17 ounces	425 grammes

Add the Zinc Oxide gradually to the Benzoated Lard, previously melted at a low temperature; stir the mixture constantly until cold.

UNGUENTUM ZINCI OLEATIS.

Zinc Oleate Ointment.

	IMPERIAL	METRIC
Zinc Sulphate . . .	2 ounces .	60 grammes
Hard Soap, in shavings .	4 ounces .	120 grammes
Distilled Water, boiling Soft Paraffin, white .	of each a sufficient quantity	

Dissolve the Zinc Sulphate in four fluid ounces (or one hundred and twenty cubic centimetres) of the Distilled Water. Dissolve the Hard Soap in forty fluid ounces (or twelve hundred cubic centimetres) of the Distilled Water. Mix the solutions; collect the precipitated zinc oleate; wash with hot Distilled Water until the washings afford little or no reaction for sulphate; dry on a water-bath and mix with an equal weight of the Soft Paraffin, melted; stir until cold.

UVÆ URSI FOLIA.

Bearberry Leaves.

The dried leaves of Arctostaphylos Uva-ursi, *Spreng.* [*Bentl. and Trim. Med. Pl.* vol. iii. plate 163].

Characters.—Yellowish-green, obovate or spathulate, coriaceous leaves, usually about three-quarters of an inch (eighteen millimetres) in length. They are entire and very shortly petiolate. The upper surface is glabrous, shining and reticulate, and the veinlets are depressed. The Leaves have no definite odour but a very astringent taste.

VALERIANÆ RHIZOMA.

Valerian Rhizome.

Synonym.—Valerian Root.

The dried erect rhizome and roots of Valeriana officinalis, *Linn.* [*Bentl. and Trim. Med. Pl.* vol. ii. plate 146]. Collected in the autumn.

Characters.—A short erect rhizome, entire or sliced, dark yellowish-brown externally, and giving off numerous slender brittle roots three or four inches (seven and a half to ten centimetres) long, of the same colour as the rhizome; rhizome and roots whitish or yellowish internally. The odour that is developed in the process of drying is strong, characteristic, and disagreeable; taste unpleasant, camphoraceous, and slightly bitter.

VERATRINA.

Veratrine.

An alkaloid, or mixture of alkaloids, prepared from cevadilla, the dried ripe seeds of Schœnocaulon officinale, *A. Gray* [*Bentl. and Trim. Med. Pl.* vol. iv. plate 287]. It may be obtained by the following process:—

	IMPERIAL	METRIC
Cevadilla of commerce	2 pounds	1 kilogramme
Distilled Water Alcohol (90 per cent.) Solution of Ammonia Hydrochloric Acid	of each	a sufficient quantity

Macerate the cevadilla with half its weight of boiling Distilled Water, in a covered vessel, for twenty-four hours; remove the cevadilla; squeeze it; dry it thoroughly in a warm place; then beat it in a mortar, and separate the seeds from the capsules. Reduce the seeds to powder; moisten the powder with the Alcohol; pack firmly in a percolator; pass the Alcohol through the marc until the percolate ceases to be coloured; concentrate the alcoholic solution by distillation, so long as no deposit forms, and pour the residue, while hot, into twelve times its volume of cold Distilled Water; filter through calico; wash what remains on the filter with Distilled Water, until the filtrate ceases to precipitate with Solution of Ammonia. To the filtrate add Solution of Ammonia in slight excess; let the precipitate completely subside; pour off the supernatant liquid; collect the precipitate on a filter; wash it with Distilled Water until the filtrate passes colourless; distribute the moist precipitate through twelve fluid ounces (or four hundred cubic centimetres) of Distilled Water; add gradually, with diligent stirring, sufficient Hydrochloric Acid to make the liquid feebly but persistently acid; add sixty grains (or four grammes) of the purified animal charcoal of commerce; digest with moderate heat for twenty minutes; filter; allow the liquid to cool; add Solution of Ammonia in slight excess, and, when the precipitate has completely subsided, pour off the supernatant liquid; collect the precipitate on a filter and wash it with cold Distilled Water until free from chloride; dry the precipitate, first by imbibition with filtering paper, and then by the application of warmth.

Characters and Tests.—Pale grey, amorphous; without odour, but, even in the most minute quantity, powerfully irritating the nostrils; strongly and persistently bitter, and intensely acrid; insoluble in *water*, soluble in 3 parts of *alcohol* (90 per cent.) or of *chloroform*, in 6 parts of *ether*, and in diluted acids, leaving slight traces of an insoluble brown resinous matter. It dissolves in *nitric acid*, yielding a yellow solution. Warmed with *hydrochloric acid*, it dissolves with production of a blood-red colour lasting several days. Treated with fifty or sixty times its weight of *sulphuric acid*, the mixture turns yellow, subsequently acquires a yellowish-green fluorescence which becomes more distinct on the addition of more acid and slowly changes to bright-red, or, if warmed, violet-red. Heated with access of air, Veratrine melts to a yellow liquid, and at length burns away, leaving no appreciable residue (absence of mineral impurity).

VINUM ANTIMONIALE.

Antimonial Wine.

	IMPERIAL	METRIC
Tartarated Antimony	40 grains .	4 grammes
Distilled Water, boiling	1 fl. ounce .	44 cubic centimetres
Sherry	a sufficient quantity	

Dissolve the Tartarated Antimony in the Distilled Water; mix the solution with sufficient Sherry to form one pint (or eight hundred and seventy-five cubic centimetres) of the Antimonial Wine.

Dose.—10 to 30 minims; as an emetic, 2 to 4 fluid drachms.

VINUM AURANTII.

Orange Wine.

Wine made by the fermentation of a saccharine solution to which Fresh Bitter-Orange Peel has been added.

Characters and Tests.—A vinous liquid, having a golden sherry colour, and a taste and aroma derived from the Bitter-Orange Peel. It contains 10 to 12 per cent. by volume of ethyl hydroxide. It is but slightly acid to *litmus-paper*. When a mixture of 50 cubic centimetres of this Wine and 50 cubic centimetres of *water*, acidulated with 5 cubic centimetres of the *volumetric solution of sulphuric acid*, is distilled, the distillate, after the rejection of the first 10 cubic centimetres, shaken with *ether*, and the ethereal liquid separated and its ether removed by evaporation, the residue should not yield a violet coloration when mixed with *test-solution of ferric chloride* (absence of salicylic acid). It should yield not more than the slightest reactions with the tests for sulphites.

VINUM COLCHICI.

Colchicum Wine.

	IMPERIAL	METRIC
Colchicum Corm, in No. 20 powder . . .	4 ounces .	200 grammes
Sherry . . .	1 pint . .	1000 cubic centimetres

Macerate as directed for tinctures.

Dose.—10 to 30 minims.

VINUM FERRI.

Iron Wine.

	IMPERIAL	METRIC
Iron, in wire .	1 ounce .	50 grammes
Sherry . .	1 pint .	1000 cubic centimetres

Set aside for thirty days in a closed vessel, the Iron wire being almost, but not quite, immersed in the Sherry, the vessel being frequently shaken, and the stopper occasionally removed; filter.

Dose.—1 to 4 fluid drachms.

VINUM FERRI CITRATIS.

Wine of Iron Citrate.

	IMPERIAL	METRIC
Iron and Ammonium Citrate	160 grains	18·3 grammes
Orange Wine . . .	a sufficient quantity	

Dissolve the Iron and Ammonium Citrate in sufficient Orange Wine to form one pint (or one thousand cubic centimetres). Agitate occasionally for three days; filter.

Dose.—1 to 4 fluid drachms.

VINUM IPECACUANHÆ.

Ipecacuanha Wine.

	IMPERIAL	METRIC
Liquid Extract of Ipecacuanha	1 fl. ounce	50 cubic centimetres
Sherry . . .	19 fl. ounces	950 cubic centimetres

Mix; set aside for forty-eight hours; filter.

Dose.—10 to 30 minims, as an expectorant; as an emetic, 4 to 6 fluid drachms.

VINUM QUININÆ.

Quinine Wine.

	IMPERIAL	METRIC
Quinine Hydrochloride	20 grains	2 grammes
Orange Wine . .	1 pint	875 cubic centimetres

Dissolve; set aside; filter if necessary.

Dose.—½ to 1 fluid ounce.

VINUM XERICUM.

Sherry.

A Spanish wine.

Characters and Tests.—Pale yellowish-brown, containing not less than 16 per cent. of ethyl hydroxide by volume. When a mixture of 50 cubic centimetres of this wine and 50 cubic centimetres of *water*, acidulated with 5 cubic centimetres of the *volumetric solution of sulphuric acid*, is distilled, the distillate, after rejection of the first 10 cubic centimetres, shaken with *ether*, the ethereal liquid separated and its ether removed by evaporation, the residue should not yield a violet coloration when mixed with *test-solution of ferric chloride* (absence of salicylic acid).

ZINCI ACETAS.

Zinc Acetate.

Zinc Acetate, $Zn(C_2H_3O_2)_2,3H_2O$, is prepared by neutralising acetic acid with zinc carbonate.

Characters and Tests.—In thin translucent and colourless crystalline plates, of a pearly lustre, with a sharp unpleasant taste; soluble in 2·5 parts of *water*. It affords the reactions characteristic of zinc and of acetates. It should yield no characteristic reaction with the tests for lead, copper, cadmium, arsenium, iron, aluminium, calcium, magnesium, sodium, potassium, ammonium, chlorides, or sulphates.

Dose.—1 to 2 grains.

ZINCI CARBONAS.

Zinc Carbonate.

Zinc Carbonate or zinc hydroxycarbonate, $ZnCO_3(ZnH_2O_2)_2,H_2O$, is produced by the interaction of zinc sulphate and sodium carbonate.

Characters and Tests.—A white, tasteless, inodorous powder, insoluble in *water*, entirely soluble in *diluted nitric* *acid.* It affords the reactions characteristic of zinc and of carbonates. It should yield no characteristic reaction with the tests for lead, copper, cadmium, arsenium, iron, aluminium, calcium, magnesium, sodium, potassium, or ammonium, and only the slightest reactions with the tests for chlorides or sulphates.

ZINCI CHLORIDUM.

Zinc Chloride.

Zinc Chloride, $ZnCl_2$, is produced by the interaction of hydrochloric acid and zinc.

Characters and Tests.—In colourless opaque rods or tablets, very deliquescent and caustic; almost entirely soluble in *water*, *alcohol* (90 per cent.), and *ether.* It affords the reactions characteristic of zinc and of chlorides. It should yield no characteristic reaction with the tests for lead, copper, cadmium, arsenium, iron, aluminium, calcium, magnesium, sodium, potassium, ammonium, or sulphates.

ZINCI OXIDUM.

Zinc Oxide.

Zinc Oxide, ZnO, may be prepared by exposing zinc carbonate to a dull red heat, or from metallic zinc by combustion.

Characters and Tests.—Prepared from the carbonate it is a soft, nearly white, tasteless and inodorous powder, becoming pale yellow when heated; prepared by combustion it is white. It affords the reactions characteristic of zinc. It should be entirely soluble when rubbed, and, if necessary, warmed, with *solution of ammonia* mixed with *strong solution of ammonia* (absence of metallic zinc). It should yield no characteristic reaction with the tests for lead, copper, cadmium, arsenium, iron, aluminium, calcium, magnesium, sodium, potassium, ammonium, carbonates, chlorides, or sulphates.

Dose.—3 to 10 grains.

ZINCI SULPHAS.

Zinc Sulphate.

Zinc Sulphate, $ZnSO_4,7H_2O$, is formed by the interaction of diluted sulphuric acid and zinc.

Characters and Tests.—Colourless transparent prismatic crystals with a strong metallic styptic taste. Soluble in less than an equal weight of cold *water*. It affords the reactions characteristic of zinc and of sulphates. It should yield no characteristic reaction with the tests for lead, copper, cadmium, arsenium, aluminium, calcium, magnesium, sodium, potassium, ammonium, or acetates, and only the slightest reactions with the tests for iron or chlorides.

Dose.—1 to 3 grains, as a tonic; as an emetic, 10 to 30 grains.

ZINCI SULPHOCARBOLAS.

Zinc Sulphocarbolate.

Zinc Sulphocarbolate, or zinc phenol-para-sulphonate, $Zn(OH{\cdot}C_6H_4{\cdot}SO_3)_2,H_2O$, may be obtained by heating a mixture of phenol and sulphuric acid, and saturating the product with zinc oxide.

Characters and Tests.—Colourless, transparent, tabular, efflorescent crystals; soluble in 2·5 parts of *alcohol* (90 per cent.), and in 2 parts of *water*. The aqueous solution is coloured violet by *test-solution of ferric chloride*, and affords a white precipitate with *solution of ammonium hydrosulphide*. It should yield no characteristic reaction with the tests for lead, copper, cadmium, arsenium, iron, aluminium, calcium, magnesium, sodium, potassium, ammonium, acetates, or chlorides, and only the slightest reactions with the tests for sulphates.

ZINCI VALERIANAS.

Zinc Valerianate.

Zinc Valerianate, or zinc iso-valerianate, $Zn(C_5H_9O_2)_2$, may be prepared by saturating iso-valerianic acid with zinc carbonate, or by the interaction of zinc sulphate and sodium iso-valerianate.

Characters and Tests.—In white pearly tabular crystals, with a disagreeable odour, and a metallic taste; very slightly soluble in cold *water* or in *ether*, soluble in hot *water* and *alcohol* (90 per cent.). On heating to redness, after moistening with a small quantity of *nitric acid*, it should yield not less than 26 nor more than 30 per cent. of zinc oxide. It should yield no characteristic reaction with the tests for lead, copper, cadmium, arsenium, iron, aluminium, calcium, magnesium, sodium, potassium, ammonium, acetates, or carbonates, and only the slightest reactions with the tests for chlorides or sulphates. When heated with *diluted sulphuric acid* it gives a distillate which, when mixed with *solution of copper acetate*, does not immediately affect the transparency of the liquid, but forms after a little time oily drops, which gradually pass into a bluish-white crystalline deposit (absence of butyrates).

Dose.—1 to 3 grains.

ZINGIBER.

Ginger.

The scraped and dried rhizome of Zingiber officinale, *Roscoe* [*Bentl. and Trim. Med. Pl.* vol. iv. plate 270].

Characters.—In flattish irregularly branched pieces, varying in length, but commonly from about three to four inches (seven and a half to ten centimetres), each branch marked at its summit by a depressed scar; externally pale buff and somewhat striated and fibrous; breaking readily with a mealy, short, but rather fibrous or sometimes resinous fracture. Odour agreeable, aromatic; taste hot and pungent.

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APPENDICES.

I.

ARTICLES EMPLOYED IN CHEMICAL TESTING.

ACETIC ACID.

The Acetic Acid of the British Pharmacopœia.

ACETIC ACID, GLACIAL.

The Glacial Acetic Acid of the British Pharmacopœia.

ALBUMEN.

The liquid white, separated from the yolk, of the egg of Gallus Bankiva *var.* domesticus, *Temminck.*

ALCOHOL, ABSOLUTE.

The Absolute Alcohol of the British Pharmacopœia.

ALCOHOL (90 per cent.) ALCOHOL (70 per cent.)

The Alcohol (90 per cent.), and Alcohol (70 per cent.) of the British Pharmacopœia.

ALUM.

The Alum of the British Pharmacopœia.

AMMONIUM MOLYBDATE.

A nearly white crystalline salt, $(NH_4)_2MoO_4$.

AMMONIUM OXALATE.

Colourless crystals, $(COONH_4)_2,H_2O$, prepared by neutralising oxalic acid with solution of ammonia.

AMMONIUM THIOCYANATE.

A crystalline salt, NH_4SCN.

AMYLIC ALCOHOL.

A liquid consisting principally of iso-primary amylic alcohol, $(CH_3)_2:CH{\cdot}CH_2{\cdot}CH_2OH$. It may be prepared by shaking commercial fusel oil with a saturated solution of common salt, separating the oily layer, submitting it to distillation, and collecting and reserving the portion which distils between 257° and 289° F. (125° and 142·8° C.).

BARIUM CHLORIDE.

Colourless crystals, $BaCl_2,2H_2O$. Its solution should not give a precipitate with *solution of ammonium hydrosulphide*, and no residue should remain after adding excess of *diluted sulphuric acid*, filtering, and evaporating the filtrate to dryness in a platinum dish. Barium nitrate, $Ba2NO_3$, or barium acetate, $(CH_3COO)_2Ba$, may be used in place of barium chloride, but each must respond to the foregoing tests.

BARIUM HYDROXIDE.

Colourless crystals, $Ba(OH)_2,8H_2O$, prepared by mixing concentrated solutions of barium chloride and sodium hydroxide. The precipitate is purified by recrystallisation from water. It should be entirely soluble in *water*, the resulting solution should give no precipitate with *solution of ammonium hydrosulphide*, and a very slight residue should remain after adding excess of *diluted sulphuric acid*, filtering, and evaporating the filtrate to dryness in a platinum dish.

BENZOL.

The Benzol of the British Pharmacopœia.

BENZOLATED AMYLIC ALCOHOL.

Benzol	3 parts by volume.
Amylic Alcohol . . .	1 part by volume.

Mix ; decant from any deposited water.

BISMUTH OXYNITRATE.

The Bismuth Oxynitrate of the British Pharmacopœia.

BORAX.

The Borax, $Na_2B_4O_7,10H_2O$, of the British Pharmacopœia.

BROMINE.

The bromine of commerce.

CADMIUM IODIDE.

The pure crystals, CdI_2, of commerce.

CALCIUM CARBONATE.

The pure white marble, or calc spar, of commerce.

CALCIUM HYDROXIDE.

The Calcium Hydroxide of the British Pharmacopœia.

CALCIUM OXIDE.

The Lime of the British Pharmacopœia.

CALCIUM SULPHATE.

Pure native calcium sulphate, $CaSO_4,2H_2O$.

CARBON BISULPHIDE.

The Carbon Bisulphide of the British Pharmacopœia.

CHLOROFORM.

The Chloroform of the British Pharmacopœia.

CITRIC ACID.

The Citric Acid of the British Pharmacopœia.

COLLODION.

The Collodion of the British Pharmacopœia.

COPPER.

The metal in foil, wire, or turnings.

COPPER OXYACETATE.

The pure copper oxyacetate, or verdigris, of commerce.

COPPER SULPHATE.

The Copper Sulphate of the British Pharmacopœia.

ETHER.

The Ether of the British Pharmacopœia.

FERRIC CHLORIDE.

The pure anhydrous ferric chloride of commerce.

FERROUS SULPHATE.

The Ferrous Sulphate of the British Pharmacopœia.

GLYCERIN.

The Glycerin of the British Pharmacopœia.

HYDROCHLORIC ACID.

The Hydrochloric Acid of the British Pharmacopœia.

HYDROCHLORIC ACID, DILUTED.

The Diluted Hydrochloric Acid of the British Pharmacopœia.

HYDROCHLORIC ACID, GASEOUS.

The dry gas, HCl, prepared by the interaction of sulphuric acid and common salt.

HYDROGEN SULPHIDE.

Synonym.—**Sulphuretted Hydrogen.**

A gas prepared by the action of hydrochloric acid on ferrous sulphide. It will be sufficiently pure after passing through two wash-bottles each containing water. A solution of the gas in *water* may also be employed, but only if it smells strongly of the gas and yields an abundant black precipitate with *solution of lead subacetate.*

INDIGO.

A blue pigment prepared from various species of Indigofera, *Linn.*

IRON.

The Iron of the British Pharmacopœia.

ISINGLASS.

The swimming bladder, or sound, of various species of Acipenser, *Linn.*, prepared and cut into shreds.

LEAD ACETATE.

The Lead Acetate of the British Pharmacopœia.

LEAD PEROXIDE.

The pure lead peroxide, PbO_2, of commerce.

LIME.

The Lime of the British Pharmacopœia.

LITMUS.

A blue pigment prepared from various species of Roccella, *DC.* Litmus is used in several forms: for example, Solution of Litmus (Appendix II.); Blue Litmus Paper, made by impregnating unglazed white paper with a solution of litmus; and Red Litmus Paper, made by impregnating the paper with the solution reddened by the previous addition of a very minute quantity of sulphuric acid. Litmus may also be employed in the solid form.

MANGANESE PEROXIDE.

The powdered native peroxide, MnO_2, pyrolusite.

METHYL-ORANGE.

Methyl-orange, $NaO{\cdot}SO_2{\cdot}C_6H_4{\cdot}N:N{\cdot}C_6H_4{\cdot}N(CH_3)_2$, or helianthin, is prepared by the combination of diazobenzene-sulphonic acid and dimethylaniline in an alkaline solution. Its warm aqueous solution should give no precipitate with an alkali or with *solution of calcium chloride*, but an orange-yellow precipitate with *solution of lead subacetate.*

MICROCOSMIC SALT.

The salt, $NaNH_4HPO_4,4H_2O$, of commerce.

MILK OF LIME.

Lime	100 grammes
Distilled water . . .	200 cubic centimetres

Mix.

MORPHINATED WATER.

Prepared by digesting pure *morphine* in Chloroform Water for seven days at a temperature of 60° F. (15·5° C.), with occasional agitation, so as to obtain a saturated solution of the alkaloid, and filtering from the undissolved *morphine*.

MORPHINE.

The precipitate obtained on adding *solution of ammonia*, in slight excess, to a solution of a pure morphine salt in *water*, the precipitate being washed with *water* until free from ammonium salt.

MUCILAGE OF GUM ACACIA.

The Mucilage of Gum Acacia of the British Pharmacopœia.

MUCILAGE OF STARCH.

Triturate 1 gramme of Starch with a small quantity of Distilled Water to form a smooth paste; add more Distilled Water, gradually, to produce 50 cubic centimetres of mixture; boil for a few minutes, constantly stirring; cool.

Mucilage of Starch should be recently prepared

NITRIC ACID.

The Nitric Acid of the British Pharmacopœia.

NITRIC ACID, DILUTED.

The Diluted Nitric Acid of the British Pharmacopœia.

NITRIC ACID, FUMING.

Nitric acid of specific gravity 1·5.

OIL OF TURPENTINE.

The Oil of Turpentine of the British Pharmacopœia.

OLIVE OIL.

The Olive Oil of the British Pharmacopœia.

PETROLEUM SPIRIT.

Synonym.—Petroleum Ether.

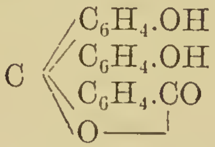
A colourless, very volatile, and highly inflammable liquid obtained from petroleum, and consisting of a mixture of the lower members of the paraffin series of hydrocarbons. Boiling point 122° to 140° F. (50° to 60° C.). Specific gravity 0·670 to 0·700.

PHENOL.

The Phenol of the British Pharmacopœia.

PHENOL-PHTHALEIN.

A crystalline substance produced by interaction of phenol and phthalic anhydride.



PICRIC ACID.

Trinitrophenol, $C_6H_2(NO_2)_3OH$, obtained by the action of nitric acid on phenol.

POTASSIUM BICHROMATE.

The Potassium Bichromate of the British Pharmacopœia.

POTASSIUM CHLORATE.

The Potassium Chlorate of the British Pharmacopœia.

POTASSIUM CHROMATE.

The pure, neutral, yellow crystals, K_2CrO_4, of commerce.

POTASSIUM CYANIDE.

The commercial salt containing at least 90 per cent. of potassium cyanide, KCN.

POTASSIUM FERRICYANIDE.

The red crystalline salt, $K_6Fe_2C_{12}N_{12}$. Its aqueous solution should give no precipitate or blue coloration with a dilute solution of a pure ferric salt.

POTASSIUM FERROCYANIDE.

The yellow crystalline salt, $K_4FeC_6N_6,3H_2O$, prepared by fusing together potassium carbonate, nitrogenous organic matter, and iron.

POTASSIUM HYDROGEN SULPHITE.

Synonym.—Acid Potassium Sulphite.

The commercial salt, $KHSO_3$.

POTASSIUM HYDROXIDE.

The Caustic Potash of the British Pharmacopœia.

POTASSIUM IODIDE.

The Potassium Iodide of the British Pharmacopœia.

POTASSIUM PERMANGANATE.

The Potassium Permanganate of the British Pharmacopœia.

POTASSIUM SULPHATE.

The Potassium Sulphate of the British Pharmacopœia.

POWDERED TALC.

A natural magnesium silicate, powdered, and purified by boiling with diluted hydrochloric acid, washing with distilled water until neutral to *litmus*, and drying.

SODIUM ACETATE.

The pure commercial salt, $CH_3COONa,3H_2O$.

SODIUM ARSENATE.

The Sodium Arsenate of the British Pharmacopœia.

SODIUM BICARBONATE.

The Sodium Bicarbonate of the British Pharmacopœia.

SODIUM CARBONATE.

The Sodium Carbonate of the British Pharmacopœia.

SODIUM CHLORIDE.

The Sodium Chloride of the British Pharmacopœia.

SODIUM HYDROGEN SULPHITE.

Synonym.—Acid Sodium Sulphite.

The commercial salt, $NaHSO_3$.

SODIUM HYDROXIDE.

The sodium hydroxide, sodium hydrate, or 'caustic soda,' of commerce, occurs in hard greyish-white rods or cakes, deliquescent, very alkaline and corrosive. It affords the reactions characteristic of sodium. It usually contains as impurities alumina, carbonates, chlorides, phosphates, silicates, and sulphates. A clear solution of caustic soda may be used, instead of a solution of *Purified Sodium Hydroxide*, in all analytical operations in which the foregoing impurities would not vitiate the result.

Purified Sodium Hydroxide may be obtained by dissolving caustic soda in ethylic alcohol, filtering the solution, evaporating it to dryness in a silver dish, occasionally adding distilled water during the evaporation. The residue is *Purified Sodium Hydroxide.* It should yield no characteristic reaction with the tests for phosphates or sulphates, and not more than the slightest reactions with the tests for carbonates. It is not quite free from alumina.

Pure Sodium Hydroxide may be prepared by the interaction of pure barium hydroxide and sodium sulphate, or by the interaction of pure sodium and water. A solution of Pure Sodium Hydroxide is required only in testing for small quantities of aluminium.

SODIUM NITRITE.

The Sodium Nitrite of the British Pharmacopœia.

SODIUM POTASSIUM TARTRATE.

The Sodium Potassium Tartrate of the British Pharmacopœia.

SODIUM SULPHATE.

The Sodium Sulphate of the British Pharmacopœia.

SODIUM SULPHITE.

The Sodium Sulphite of the British Pharmacopœia.

SODIUM THIOSULPHATE.

Synonym.—Sodium Hyposulphite.

The crystalline salt, $Na_2S_2O_3,5H_2O$. 2·4644 grammes should decolorise 100 cubic centimetres of the *volumetric solution of iodine.*

SULPHUR.

The Sublimed Sulphur of the British Pharmacopœia.

SULPHURIC ACID.

The Sulphuric Acid of the British Pharmacopœia.

SULPHURIC ACID, DILUTED.

The Diluted Sulphuric Acid of the British Pharmacopœia.

TARTARIC ACID.

The Tartaric Acid of the British Pharmacopœia.

TEST PAPERS.

See 'Litmus' *and* 'Turmeric.'

TIN.

Tin, granulated by letting drops of it in the molten state fall into water. It should yield no reactions with the tests for lead, copper, iron, or zinc.

TURMERIC.

The dried rhizome of Curcuma longa, *Linn.* Turmeric is commonly used in the form of tincture prepared from the bruised rhizome, in the proportion of 1 gramme to 6 cubic centimetres of Alcohol (90 per cent.), by the process of maceration or in the form of paper prepared by steeping unglazed white paper in the tincture and drying.

URANIUM NITRATE.

The crystals of pure uranium nitrate of commerce.

WATER.

The Distilled Water of the British Pharmacopœia.

ZINC.

The laminated or granulated metal. It should be entirely dissolved by *diluted hydrochloric acid.* The solution should yield no characteristic reaction with the tests for lead, copper, cadmium, arsenium, tin, and iron.

II.

TEST SOLUTIONS.

SOLUTION OF ALBUMEN.

Albumen . . .	2 cubic centimetres
Distilled Water . . .	8 cubic centimetres, or a sufficient quantity

Mix by trituration in a mortar, and filter through clean tow first moistened with Distilled Water.

Solution of Albumen must be recently prepared. The strength of the Solution may be adjusted to suit particular requirements.

SOLUTION OF AMMONIA.

The Solution of Ammonia of the British Pharmacopœia.

SOLUTION OF AMMONIA, STRONG.

The Strong Solution of Ammonia of the British Pharmacopœia.

SOLUTION OF AMMONIUM ACETATE.

The Solution of Ammonium Acetate of the British Pharmacopœia.

SOLUTION OF AMMONIUM CARBONATE.

Ammonium Carbonate, in small pieces	10 grammes
Solution of Ammonia	15 cubic centimetres
Distilled Water, sufficient to produce	200 cubic centimetres

Dissolve and filter.

SOLUTION OF AMMONIUM CHLORIDE.

Ammonium Chloride	20 grammes
Distilled Water, sufficient to produce	200 cubic centimetres

Dissolve and filter.

SOLUTION OF AMMONIUM CHLORIDE (NESSLER'S).

Ammonium Chloride	3·15 grammes
Distilled Water, recently boiled, and free from ammonia, sufficient to produce	1000 cubic centimetres

Dissolve.

SOLUTION OF AMMONIUM CITRATE.

The Solution of Ammonium Citrate of the British Pharmacopœia.

SOLUTION OF AMMONIUM HYDROSULPHIDE.

Saturate one hundred and twenty cubic centimetres of Solution of Ammonia with washed Hydrogen Sulphide; add eighty cubic centimetres of Solution of Ammonia.

The Solution should be freshly prepared.

SOLUTION OF AMMONIUM MOLYBDATE.

Ammonium Molybdate	20 grammes
Distilled Water, sufficient to produce	200 cubic centimetres

Dissolve and filter.

SOLUTION OF AMMONIUM OXALATE.

Ammonium Oxalate	5 grammes
Distilled Water, warm, sufficient to produce	200 cubic centimetres

Dissolve and filter.

SOLUTION OF AMMONIUM THIOCYANATE.

Ammonium Thiocyanate .	5 grammes
Distilled Water, sufficient to produce . . .	200 cubic centimetres

Dissolve and filter.

SOLUTION OF AURIC CHLORIDE.

Pure Gold of commerce, in leaf	1 gramme
Nitric Acid	1·5 cubic centimetres
Hydrochloric Acid . . .	7 cubic centimetres
Distilled Water . . .	a sufficient quantity

Place the Gold in a flask with the Nitric Acid and six cubic centimetres of the Hydrochloric Acid, first mixed with four cubic centimetres of the Distilled Water, and digest until it is dissolved. Add one cubic centimetre of Hydrochloric Acid. Evaporate in a basin at a temperature not exceeding 212° F. (100° C.) until acid vapours cease to be given off. Dissolve the auric chloride thus obtained in fifty cubic centimetres of Distilled Water.

SOLUTION OF BARIUM CHLORIDE.

Barium Chloride, in crystals	20 grammes
Distilled Water, sufficient to produce . . .	200 cubic centimetres

Dissolve and filter.

SOLUTION OF BARIUM HYDROXIDE.

Barium Hydroxide . . .	10 grammes
Distilled Water, recently boiled, sufficient to produce . .	200 cubic centimetres

Dissolve and filter.

SOLUTION OF BORIC ACID.

Boric Acid	5 grammes
Alcohol (90 per cent.), sufficient to produce	200 cubic centimetres

Dissolve and filter.

SOLUTION OF BROMINE.

Bromine	1 cubic centimetre
Distilled Water, sufficient to produce . . .	150 cubic centimetres

Place the Bromine in a bottle furnished with a well-fitting stopper, and pour in the Distilled Water; shake several times. Keep the Solution in a dark place.

SOLUTION OF CADMIUM IODIDE.

Cadmium Iodide . . .	5 grammes
Distilled Water, sufficient to produce . . .	100 cubic centimetres

Dissolve and filter.

SOLUTION OF CALCIUM CHLORIDE.

Calcium Chloride, fused .	20 grammes
Distilled Water, sufficient to produce . . .	200 cubic centimetres

Dissolve and filter.

SOLUTION OF CALCIUM SULPHATE.

Calcium Sulphate . . .	2·5 grammes
Distilled Water . . .	200 cubic centimetres

Rub the Calcium Sulphate in a porcelain mortar for a few minutes with twenty cubic centimetres of the Distilled Water; shake the mixture thus obtained with the rest of the Distilled Water; set aside; filter.

SOLUTION OF CHLORINATED SODA.

The Solution of Chlorinated Soda of the British Pharmacopœia.

SOLUTION OF CHLORINE.

Produced by saturating Distilled Water with chlorine. The chlorine may be obtained by the interaction of Hydrochloric Acid and Manganese Peroxide, and should be purified by passing through a small quantity of water contained in a wash-bottle.

The Solution should be recently prepared.

SOLUTION OF CHROMIC ACID.

The Solution of Chromic Acid of the British Pharmacopœia.

SOLUTION OF COPPER ACETATE.

Copper Oxyacetate, in fine powder	20 grammes
Acetic Acid . . .	40 cubic centimetres
Distilled Water, sufficient to produce . . .	200 cubic centimetres

Dilute the Acetic Acid with twenty cubic centimetres of the Distilled Water; digest the Copper Oxyacetate in the mixture at a temperature not exceeding 212° F. (100° C.), with repeated stirring; continue heating until a dry residue is obtained. Digest the product in 160 cubic centimetres of boiling Distilled Water; make up to the required volume with Distilled Water; filter.

SOLUTION OF COPPER AMMONIO-SULPHATE.

Copper Sulphate, in crystals .	10 grammes
Solution of Ammonia . .	a sufficient quantity
Distilled Water, sufficient to produce	200 cubic centimetres

Dissolve the Copper Sulphate in one hundred and sixty cubic centimetres of the Distilled Water, and cautiously add the Solution of Ammonia to the liquid until the precipitate first formed is nearly dissolved; filter the product; finally make up to the required volume with Distilled Water.

A concentrated solution may be prepared by using a smaller quantity of Distilled Water.

SOLUTION OF COPPER SULPHATE.

Copper Sulphate . .	20 grammes
Distilled Water, sufficient to produce . . .	200 cubic centimetres

Dissolve, and filter if necessary.

SOLUTION OF FERRIC CHLORIDE.

See 'Test-Solution of Ferric Chloride,' *page* 415.

SOLUTION OF FERRIC SULPHATE.

The Solution of Ferric Sulphate of the British Pharmacopœia.

SOLUTION OF FERROUS SULPHATE.

Ferrous Sulphate . .	4 grammes
Distilled Water, sufficient to produce . . .	200 cubic centimetres

Dissolve and filter.

The Solution of Ferrous Sulphate should be recently prepared.

SOLUTION OF HYDROGEN PEROXIDE.

The Solution of Hydrogen Peroxide of the British Pharmacopœia.

SOLUTION OF INDIGO SULPHATE.

Indigo, dry and in fine powder	0·2 gramme
Sulphuric Acid . . .	200 cubic centimetres

Mix the Indigo with 2 cubic centimetres of the Sulphuric Acid in a small test-tube, and heat in boiling water for an hour; pour the product into the remainder of the acid; shake the mixture; decant the clear liquid.

SOLUTION OF IODINE.

The Volumetric Solution of Iodine, *page* 430.

SOLUTION OF ISINGLASS.

Isinglass, in shreds . .	4 grammes
Distilled Water, warm, sufficient to produce .	200 cubic centimetres

Mix, and digest for half an hour on a water-bath with repeated shaking, and filter through clean moistened tow.

Solution of Isinglass must be recently prepared.

SOLUTION OF LEAD ACETATE.

Lead Acetate	20 grammes
Distilled Water, recently boiled, sufficient to produce . .	200 cubic centimetres

Dissolve and filter.

SOLUTION OF LEAD SUBACETATE.

The Strong Solution of Lead Subacetate of the British Pharmacopœia; or the same, more or less diluted.

SOLUTION OF LIME.

Synonym.—Solution of Calcium Hydroxide.

The Solution of Lime of the British Pharmacopœia.

SOLUTION OF LITMUS.

Litmus, in powder . . .	20 grammes
Alcohol (90 per cent.) . .	200 cubic centimetres
Distilled Water . . .	200 cubic centimetres

Boil the Litmus with eighty cubic centimetres of the Alcohol for one hour; pour away the clear liquid; repeat this operation with sixty cubic centimetres of the Alcohol; and a third time with the remainder of the Alcohol. Digest the washed Litmus in the Distilled Water, and filter.

SOLUTION OF MAGNESIUM AMMONIO-SULPHATE.

Magnesium Sulphate . .	20 grammes
Ammonium Chloride . .	40 grammes
Solution of Ammonia . .	84 cubic centimetres
Distilled Water . . .	160 cubic centimetres

Dissolve the Magnesium Sulphate and Ammonium Chloride in the Distilled Water; add the Solution of Ammonia, and set the mixture aside for a few days in a well-closed bottle; decant and filter.

SOLUTION OF MAGNESIUM SULPHATE.

Magnesium Sulphate .	20 grammes
Distilled Water, sufficient to produce . . .	200 cubic centimetres

Dissolve and filter.

SOLUTION OF MERCURIC CHLORIDE.

See 'Test-Solution of Mercuric Chloride,' *page* 416.

SOLUTION OF MERCUROUS NITRATE.

Mercury	2 grammes
Nitric Acid	1 cubic centimetre
Distilled Water . . .	a sufficient quantity

To the Mercury, in a small dish, add one cubic centimetre of Distilled Water and the Nitric Acid, and set the whole aside for twenty-four hours in a cool dark place; drain the resulting crystals; dissolve them in two hundred cubic centimetres of Distilled Water.

SOLUTION OF METHYL ORANGE.

Methyl Orange	0·4 gramme
Alcohol (90 per cent.)	50 cubic centimetres
Distilled Water, sufficient to produce	200 cubic centimetres

Dissolve.

SOLUTION OF PHENOL-PHTHALEIN.

Phenol-phthalein	0·4 gramme
Alcohol (90 per cent.)	120 cubic centimetres
Distilled Water, sufficient to produce	200 cubic centimetres

Dissolve. The Solution should be colourless.

SOLUTION OF PICRIC ACID.

Picric Acid	1 gramme
Distilled Water, sufficient to produce	150 cubic centimetres

Dissolve.

SOLUTION OF PLATINIC CHLORIDE.

Platinum foil of commerce	10 grammes
Hydrochloric Acid	60 cubic centimetres
Nitric Acid	10 cubic centimetres
Distilled Water, sufficient to produce	200 cubic centimetres

Heat the Platinum foil with the Hydrochloric Acid to about 176° F. (80° C.); add the Nitric Acid very gradually; evaporate the solution to dryness on a water-bath; moisten the residue with a few drops of Hydrochloric Acid; again evaporate to dryness; dissolve the residue in sufficient Distilled Water to produce two hundred cubic centimetres of the Solution.

SOLUTION OF POTASSIO-CUPRIC TARTRATE.

Synonym.—Fehling's Solution.

No. 1.

Copper Sulphate, in crystals	34·64 grammes
Sulphuric Acid . . .	0·5 cubic centimetre
Distilled Water, sufficient to produce . .	500 cubic centimetres

Dissolve.

No. 2.

Sodium Potassium Tartrate	176 grammes
Sodium Hydroxide . .	77 grammes
Distilled Water, sufficient to produce . . .	500 cubic centimetres

Dissolve.

Mix equal volumes of the solutions No. 1 and No. 2 at the time of using.

SOLUTION OF POTASSIO-MERCURIC IODIDE.

Synonym.—Nessler's Reagent.

Potassium Iodide . .	7 grammes
Mercuric Chloride . .	a sufficient quantity
Sodium Hydroxide . .	24 grammes
Distilled Water, sufficient to produce . . .	200 cubic centimetres

Dissolve the Potassium Iodide and two and a half grammes of Mercuric Chloride in one hundred and sixty cubic centimetres of Distilled Water; to this liquid add a cold saturated aqueous solution of. Mercuric Chloride, with constant stirring, until a slight red precipitate remains; add the Sodium Hydroxide; when the latter has dissolved add a little more of the aqueous solution of Mercuric Chloride, and make up to the required volume with Distilled Water.

SOLUTION OF POTASSIUM ACETATE.

Potassium Acetate . .	20 grammes
Distilled Water, sufficient to produce . . .	200 cubic centimetres

Dissolve and filter.

SOLUTION OF POTASSIUM ACID TARTRATE.

Digest excess of Acid Potassium Tartrate in Distilled Water; filter.

SOLUTION OF POTASSIUM CARBONATE.

Potassium Carbonate .	20 grammes
Distilled Water, sufficient to produce . . .	200 cubic centimetres

Dissolve and filter.

SOLUTION OF POTASSIUM CHROMATE.

Potassium Chromate .	20 grammes
Distilled Water, sufficient to produce . . .	200 cubic centimetres

Dissolve and filter.

SOLUTION OF POTASSIUM CYANIDE.

Potassium Cyanide . .	20 grammes
Distilled Water, sufficient to produce . . .	200 cubic centimetres

Dissolve and filter.

SOLUTION OF POTASSIUM FERRICYANIDE.

Potassium Ferricyanide, in crystals . . .	10 grammes
Distilled Water, sufficient to produce . . .	200 cubic centimetres

Dissolve and filter.

This Solution should be freshly prepared.

SOLUTION OF POTASSIUM FERROCYANIDE.

Potassium Ferrocyanide, in crystals . . .	10 grammes
Distilled Water, sufficient to produce . . .	200 cubic centimetres

Dissolve and filter.

SOLUTION OF POTASSIUM HYDROXIDE.

The Solution of Potash of the British Pharmacopœia.

SOLUTION OF POTASSIUM HYDROXIDE, ALCOHOLIC.

Potassium Hydroxide . .	20 grammes
Alcohol (90 per cent.), sufficient to produce	200 cubic centimetres

Dissolve and filter.

SOLUTION OF POTASSIUM IODIDE.

Potassium Iodide . .	20 grammes
Distilled Water, sufficient to produce . . .	200 cubic centimetres

Dissolve and filter.

SOLUTION OF POTASSIUM PERMANGANATE.

The Solution of Potassium Permanganate of the British Pharmacopœia.

SOLUTION OF PYROXYLIN.

The Collodion of the British Pharmacopœia.

SOLUTION OF SILVER AMMONIO-NITRATE.

Silver Nitrate, in crystals	5 grammes
Solution of Ammonia .	10 cubic centimetres, or a sufficient quantity
Distilled Water, sufficient to produce . . .	200 cubic centimetres

Dissolve the Silver Nitrate in one hundred and sixty cubic centimetres of the Distilled Water, and cautiously add the Solution of Ammonia to the liquid until the precipitate first formed is nearly dissolved; set aside; decant; finally make up to the required volume with Distilled Water.

SOLUTION OF SILVER NITRATE.

Silver Nitrate . . .	10 grammes
Distilled Water, sufficient to produce . . .	200 cubic centimetres

Dissolve.

SOLUTION OF SODIUM ACETATE.

Sodium Acetate . . .	20 grammes
Distilled Water, sufficient to produce . . .	200 cubic centimetres

Dissolve and filter.

SOLUTION OF SODIUM CARBONATE.

Sodium Carbonate . . .	20 grammes
Distilled Water, sufficient to produce . . .	200 cubic centimetres

Dissolve and filter.

SOLUTION OF SODIUM HYDROXIDE.

Purified Sodium Hydroxide .	40 grammes
Distilled Water, sufficient to produce . . .	200 cubic centimetres

Dissolve and filter.

SOLUTION OF SODIUM PHOSPHATE.

Sodium Phosphate, in crystals	20 grammes
Distilled Water, sufficient to produce . . .	200 cubic centimetres

Dissolve and filter.

SOLUTION OF SODIUM SULPHATE.

Sodium Sulphate . .	20 grammes
Distilled Water, sufficient to produce . . .	200 cubic centimetres

Dissolve and filter.

SOLUTION OF STANNOUS CHLORIDE.

Tin, granulated . . .	40 grammes
Hydrochloric Acid . .	120 cubic centimetres
Distilled Water, sufficient to produce . . .	200 cubic centimetres

Dilute the Acid in a flask with forty cubic centimetres of the Distilled Water, and, having added the Tin, apply heat gently until gas ceases to be evolved; make up to the required volume with Distilled Water, allowing the undissolved Tin to remain in the Solution.

SOLUTION OF SULPHUROUS ACID.

The Sulphurous Acid of the British Pharmacopœia.

SOLUTION OF TANNIC ACID.

Tannic Acid . . .	20 grammes
Distilled Water, sufficient to produce . . .	200 cubic centimetres

Dissolve.

Solution of Tannic Acid should be freshly prepared.

SOLUTION OF TARTARATED ANTIMONY.

Tartarated Antimony . .	10 grammes
Distilled Water, boiling, sufficient to produce .	200 cubic centimetres

Dissolve and filter.

Solution of Tartarated Antimony should be freshly prepared.

SOLUTION OF TARTARIC ACID.

Tartaric Acid, in crystals .	25 grammes
Alcohol (90 per cent.) . .	50 cubic centimetres
Distilled Water, sufficient to produce . . .	200 cubic centimetres

Dissolve the Tartaric Acid in one hundred and thirty cubic centimetres of the Distilled Water; add the Alcohol; make up to the required volume with Distilled Water.

SOLUTION OF URANIUM NITRATE.

Uranium Nitrate . .	10 grammes
Distilled Water, sufficient to produce . . .	200 cubic centimetres

TEST-SOLUTION OF FERRIC CHLORIDE.

Dissolve 10 grammes of commercial anhydrous ferric chloride in sufficient Distilled Water to produce 200 cubic centimetres of solution. Filter if necessary.

TEST-SOLUTION OF MERCURIC CHLORIDE.

Mercuric Chloride . .	10 grammes
Distilled Water, boiling, sufficient to produce .	200 cubic centimetres

Dissolve and filter.

III.

TESTS FOR SUBSTANCES MENTIONED IN THE TEXT OF THE PHARMACOPŒIA.

ACETATES.

Neutral acetates are decomposed by heat, yielding vapours which possess a characteristic acetous odour.

Hydrogen acetate and ethyl acetate have characteristic odours. Acetates when warmed with *sulphuric acid* yield vapours of hydrogen acetate; or, when warmed with *sulphuric acid* and a small quantity of *alcohol* (90 per cent.), yield ethyl acetate.

Test-solution of ferric chloride affords a deep red coloration with neutral or faintly acid acetates, and the resulting liquid on boiling yields a reddish-brown precipitate. On adding *hydrochloric acid* the red solution turns yellow. On adding *test-solution of mercuric chloride* the red colour is not discharged (distinction from thiocyanates).

Dry acetates heated with (a very minute proportion of) arsenious anhydride yield (the highly poisonous) cacodyl oxide, recognisable by its characteristic smell.

ALUMINIUM.

Solution of ammonia or *solution of ammonium hydrosulphide* affords a white gelatinous precipitate, soluble in *hydrochloric acid*, in *acetic acid*, and in *solution of potassium hydroxide* or *solution of sodium hydroxide*, but nearly insoluble in *solution of ammonia* and in solutions of ammonium salts, and quite insoluble when the solutions are boiled.

Solution of ammonium oxalate causes no precipitate.

AMMONIUM SALTS.

Ammonium salts volatilise when strongly heated, generally without residue. When heated with *solution of* *potassium hydroxide*, or with *solution of sodium hydroxide*, ammonium salts evolve ammonia, recognisable by its odour.

Solution of platinic chloride affords with ammonium salts acidulated with *hydrochloric acid* a yellow crystalline precipitate, especially in the presence of *alcohol*. On ignition, this precipitate leaves a residue of platinum only.

A concentrated solution of *tartaric acid* produces in concentrated solutions of ammonium salts a white crystalline precipitate, especially in the presence of much *alcohol*.

Solution of potassio-mercuric iodide affords a brown precipitate, or a reddish-brown coloration, or, in excessively dilute solutions of ammonium salts, a yellowish tinge.

ANTIMONY.

Hydrogen sulphide yields, in slightly acid solutions, an orange-coloured precipitate, soluble in *solution of potassium hydroxide*, in *ammonium hydrosulphide*, and in the strongest *hydrochloric acid* with evolution of hydrogen sulphide, but almost insoluble in solution of the official Ammonium Carbonate and in solution of *potassium hydrogen sulphite*.

Hydrogen, generated by the interaction of *zinc* and *diluted sulphuric acid*, partially converts antimony compounds into hydrogen antimonide. A cold porcelain tile held in the flame of this gas acquires a dark metallic deposit which is not appreciably dissolved by *solution of chlorinated soda*. The gas, when passed into *solution of silver nitrate*, causes a black precipitate containing antimony and silver, and on the cautious addition of *solution of ammonia* the supernatant liquid yields no yellow precipitate. If one end of a strip or rod of *zinc* be allowed to rest on a platinum capsule containing the acidulated antimony solution, the other end being in the liquid, hydrogen antimonide is not evolved, but the antimony is precipitated on the platinum as a black, adherent, non-granular stain, insoluble in *hydrochloric acid*.

Copper foil precipitates antimony from solutions, and the antimony may be volatilised by heat, condensing as a white amorphous sublimate of oxides of antimony near to the *copper*.

ARSENIUM.

Hydrogen sulphide affords in solutions containing hydrochloric acid a yellow precipitate, soluble in *solution of potassium hydroxide, potassium carbonate, ammonium hydrosulphide,* and *potassium hydrogen sulphite,* and in solution of the official Ammonium Carbonate, but reprecipitated on addition of *hydrochloric acid.* The precipitate is insoluble in the strongest *hydrochloric acid.*

Nascent hydrogen, generated by the interaction of *zinc* and *diluted sulphuric acid,* converts arsenium compounds into hydrogen arsenide. A cold porcelain tile held in the flame of this gas acquires a dark metallic deposit, which is readily dissolved by *solution of chlorinated soda.* The gas, when passed into excess of *solution of silver nitrate,* causes a black precipitate of silver, and the cautious addition of *solution of ammonia* to the supernatant liquid causes a yellow precipitate.

Hydrogen, generated by the interaction of *zinc* and *solution of potassium hydroxide* or *sodium hydroxide,* converts arsenium compounds into hydrogen arsenide. This gas gives a black stain to filtering-paper soaked with *solution of silver nitrate* and placed as a cap over the tube in which the test is being performed. Hydrogen antimonide is not evolved from antimony compounds under similar circumstances. The operation should be performed in an atmosphere which is free from hydrogen sulphide.

Stannous chloride dissolved in a large excess of *hydrochloric acid* gives on boiling with a solution containing arsenium a brownish-black precipitate.

Bright *copper foil* precipitates arsenium from solutions acidulated by *hydrochloric acid,* and the arsenium may be volatilised by heat in an open tube, when it condenses, at some distance from the *copper,* as a white sublimate of characteristic octahedral crystals.

ARSENITES.—Solutions of arsenites yield a yellow precipitate with *solution of silver ammonio-nitrate.*

ARSENATES.—Solutions of arsenates yield a reddish-chocolate precipitate with *solution of silver ammonio-nitrate.*

Solution of magnesium ammonio-sulphate affords a white crystalline precipitate.

BISMUTH.

Hydrogen sulphide affords a brownish-black precipitate, insoluble in *solution of potassium hydroxide, of potassium cyanide,* in *diluted hydrochloric acid*, and in *ammonium hydrosulphide,* but decomposed and dissolved by boiling *nitric acid.*

Solution of potassium hydroxide, sodium hydroxide, or *ammonia*, except in the presence of citrates, yields a white precipitate insoluble in excess of the precipitant.

Dilute solution of *sodium chloride* in large excess gives in solutions which are not too acid a white precipitate, insoluble in *tartaric acid.*

Solution of potassium chromate gives a yellow precipitate, soluble in dilute *nitric acid,* insoluble in *solution of potassium hydroxide.*

Stannous chloride dissolved in a concentrated solution of *potassium hydroxide* gives a black precipitate when added in excess to a solution containing bismuth.

Diluted sulphuric acid does not precipitate bismuth salts.

BROMATES.

From bromates *solution of sulphurous acid* liberates bromine, recognisable by its odour and appearance.

After ignition with charcoal bromates are converted into bromides, and the latter yield their characteristic reactions.

BROMIDES OR HYDROBROMIDES.

Solution of silver nitrate gives a yellowish curdy precipitate, readily soluble in *solution of potassium cyanide,* somewhat soluble in strong but almost insoluble in weak *solution of ammonia,* and insoluble in *nitric acid.*

Solution of sodium nitrite with the addition of *diluted hydrochloric acid* does not liberate bromine from a bromide.

Solution of chlorine liberates bromine, soluble in two or three drops of *carbon bisulphide* or of *chloroform,* and forming a reddish solution.

Bromine is liberated when a bromide is heated with *sulphuric acid* and *manganese peroxide*, *lead peroxide*, or *potassium bichromate*, the vapour giving an orange-yellow colour to filter-paper soaked in *mucilage of starch*.

In testing for bromides in the presence of iodides, all iodine should first be removed by boiling the aqueous solution with excess of *lead peroxide*.

CADMIUM.

Hydrogen sulphide yields a yellow precipitate, insoluble in cold dilute *hydrochloric acid*, in *solutions of ammonium hydrosulphide*, *of potassium hydroxide*, and of *potassium cyanide*, but soluble in *nitric acid*, in hot *diluted hydrochloric acid*, and in hot *diluted sulphuric acid*.

Solution of potassium hydroxide and *solution of sodium hydroxide* afford white precipitates insoluble in excess.

Solution of ammonia gives a white precipitate readily soluble in excess.

CALCIUM.

Solution of ammonium carbonate yields a white precipitate which, after boiling well and setting aside the mixture, is insoluble in *solution of ammonium chloride*.

Solution of ammonium oxalate gives a white precipitate, soluble in *hydrochloric acid* but insoluble in *acetic acid*.

Solution of potassium chromate gives no precipitate.

CARBONATES AND BICARBONATES.

Dilute acids cause an effervescence of carbonic anhydride, which is odourless, and causes a white precipitate in *solution of lime*, or in *solution of barium hydroxide*.

Soluble carbonates afford a brownish-red precipitate with *test-solution of mercuric chloride*, bicarbonates a whitish precipitate; the former yield a white precipitate with a cold *solution of magnesium sulphate*, the latter do not.

CHLORIDES OR HYDROCHLORIDES.

Solution of silver nitrate affords a white curdy precipitate, soluble in *solution of ammonia* or *solution of potassium cyanide*, but insoluble in *nitric acid*.

A solid chloride or hydrochloride, when subjected to distillation with *sulphuric acid* and *potassium bichromate*, yields a reddish-brown distillate, which is decomposed by *water*. The resulting solution when nearly neutralised gives a yellow precipitate with *solution of lead acetate*, or *solution of barium chloride*, and a mixed red and white precipitate with *solution of silver nitrate*, of which the red portion is dissolved by *nitric acid*, and both portions by *solution of ammonia*.

Heated with *manganese peroxide* and *sulphuric acid*, chlorides or hydrochlorides yield chlorine, recognisable by its odour and by giving a blue colour with *solution of potassium iodide* and *mucilage of starch*.

CITRATES.

Citrates become charred when heated.

Solution of calcium chloride added in excess affords, when boiled with a neutral solution of a citrate, a white precipitate, insoluble in *solution of potassium hydroxide*, but soluble in *solution of ammonium chloride* and in solutions of alkaline citrates.

Solution of silver nitrate causes in solutions of neutral citrates a white precipitate soluble in *solution of ammonia*. A mirror is not formed on the sides of the tube when the ammoniacal solution is warmed (distinction from tartrates).

COPPER.

Hydrogen sulphide or *solution of ammonium hydrosulphide* yields in solutions which are not strongly acid a brownish-black precipitate, insoluble in *diluted hydrochloric acid* and in *solution of potassium hydroxide*, almost insoluble in *solution of ammonium hydrosulphide*, but decomposed and dissolved by boiling *nitric acid*, and when freshly precipitated soluble in *solution of potassium cyanide*.

Solution of potassium hydroxide gives a bulky light-blue precipitate which becomes brownish-black on boiling. The light-blue precipitate is soluble in a very large excess of a concentrated solution of *potassium hydroxide*, forming a blue solution. In the presence of soluble tartrates or citrates the light-blue precipitate dissolves at once in the *solution of potassium hydroxide*, yielding a blue liquid which is not affected on boiling. Dextrose and other sugars act similarly, but the resulting solution, on warming, affords a yellowish-red to bright-red precipitate. In the presence of non-volatile organic acids *solution of potassium hydroxide* produces no precipitate, but on the addition of the reagent the solution becomes deep-blue.

Solution of ammonia or of *ammonium carbonate* added in small quantity to a neutral solution of a copper salt gives a greenish-blue precipitate which readily dissolves in excess of *solution of ammonia*, forming a deep-blue solution. This blue coloration is perceptible in highly dilute solutions.

Solution of potassium ferrocyanide gives a reddish-brown precipitate, or in very dilute solutions a reddish-brown coloration, unaffected by dilute acids but decomposed by *solution of potassium hydroxide*.

Metallic *iron* receives a reddish coating of copper when placed in a solution of a copper salt.

CYANIDES.

Solution of silver nitrate affords a white curdy precipitate, soluble in *solution of potassium cyanide*, in *solution of ammonia*, and in boiling concentrated *nitric acid*.

If to a soluble cyanide be added a few drops of a mixed solution of ferrous and ferric salts, then of *solution of sodium hydroxide*, and lastly excess of *hydrochloric acid*, a precipitate of Prussian blue results. Insoluble cyanides decompose when heated, evolving cyanogen, which burns with a characteristic peach-coloured flame.

HYDROBROMIDES. *See* 'Bromides,' *page* 419.

HYDROCHLORIDES. *See* 'Chlorides,' *page* 420.

IODATES.

Solution of silver nitrate gives a white crystalline precipitate, sparingly soluble in *water* and in dilute *nitric acid*, but readily dissolved by *solution of ammonia*. *Solution of sulphurous acid* when added to the ammoniacal solution gives a pale yellow precipitate.

A mixed *solution of potassium iodide* and *tartaric acid* in a solution of an iodate yields iodine, which affords a blue colour with *mucilage of starch.*

Solution of barium chloride gives a white precipitate nearly insoluble in *water* and soluble with difficulty in *diluted nitric acid.*

On the addition of *mucilage of starch* and *solution of sulphurous acid* a blue colour is produced.

IODIDES.

Solution of silver nitrate affords a curdy yellow precipitate, insoluble in *nitric acid* and almost insoluble in *solution of ammonia*, but soluble in *solution of potassium cyanide.*

Solution of mercurous nitrate produces a green precipitate, insoluble in *diluted nitric acid,* soluble in *solution of potassium iodide.*

Test-solution of mercuric chloride yields a scarlet precipitate, slightly soluble in excess of this reagent, and very soluble in *solution of potassium iodide.*

Solution of lead acetate causes a yellow precipitate, soluble in *diluted nitric acid* and soluble in boiling *water.* From the latter solution the precipitate separates in golden crystalline scales as the solution cools.

Solution of copper sulphate, mixed with the *solution of ferrous sulphate* or *of sulphurous acid,* affords a whitish precipitate, soluble in *solution of ammonia,* sparingly soluble in *hydrochloric acid.*

A small quantity of *solution of chlorine* or *bromine,* or a solution of *sodium nitrite* and *diluted hydrochloric acid,* liberates iodine. A very minute quantity of free iodine produces an intense blue coloration with *mucilage of starch.* If liquid containing free iodine be shaken with *carbon bisulphide,* the iodine is dissolved by the *carbon bisulphide* and communicates a violet colour to it.

IRON.

Reactions common to Ferrous and Ferric salts:

Solution of ammonium hydrosulphide yields, in neutral solutions, a black precipitate soluble in cold *diluted hydrochloric acid* with evolution of hydrogen sulphide.

Solution of potassium ferrocyanide gives a blue precipitate, or a white precipitate rapidly turning blue, insoluble in dilute *hydrochloric acid*, decomposed by *solution of potassium hydroxide* or by *solution of sodium hydroxide.*

Reactions characteristic of Ferrous salts :

Hydrogen sulphide causes no precipitate in a slightly acid solution.

Solution of potassium ferricyanide affords a dark-blue precipitate, insoluble in dilute *hydrochloric acid*, decomposed by *solution of potassium hydroxide* or *solution of sodium hydroxide.* (Ferric salts give a reddish-brown coloration but no precipitate with this reagent.)

Ferrous salts mixed with *solution of potassium* or *sodium hydroxide* give a dull-green precipitate.

Reactions characteristic of Ferric salts :

Hydrogen sulphide gives a white precipitate of sulphur.

Solution of ammonium thiocyanate produces a blood-red coloration which is discharged on the addition of *test-solution of mercuric chloride.*

Solution of tannic acid yields a bluish-black coloration or precipitate with ferric salts, and, more slowly, with ferrous salts.

Solution of potassium, sodium, or *ammonium hydroxide* causes a reddish-brown precipitate, soluble in solution of *citric* or *tartaric acid*, and not formed in the presence of citrates and tartrates.

LEAD.

Hydrochloric acid affords, except in very weak solutions, a white precipitate, soluble in boiling *water.* The aqueous solution as it cools deposits the lead chloride in the crystalline form.

Hydrogen sulphide, in not very strongly acid solutions, yields a black precipitate insoluble in dilute *hydrochloric acid, solution of potassium hydroxide,* and *solution of ammonium hydrosulphide.* It is decomposed by boiling with *diluted nitric acid*, being partly converted into soluble lead nitrate and partly into white insoluble lead sulphate and sulphur.

Diluted *sulphuric acid* causes a white precipitate almost insoluble in *water*, and still less soluble in dilute *sulphuric acid* and in *alcohol*, but soluble in *solution of ammonium acetate*.

Solution of potassium chromate produces a yellow precipitate readily soluble in *solution of potassium hydroxide*, in strong hot *nitric acid*, sparingly soluble in diluted *nitric acid*, insoluble in *acetic acid*.

Solution of potassium hydroxide gives a white precipitate soluble in excess of the reagent but insoluble in *solution of ammonia*.

MAGNESIUM.

Solution of ammonium carbonate, in the presence of *solution of ammonium chloride*, affords no precipitate.

Solution of sodium phosphate, or *solution of sodium arsenate*, in the presence of ammonium salts and *solution of ammonia*, yields a white crystalline precipitate.

Solution of potassium, sodium, ammonium, barium, or *calcium hydroxide* causes a white precipitate, insoluble in excess of the reagent, but soluble in *solution of ammonium chloride*.

MERCURY.

Reactions common to Mercurous and Mercuric salts:

Hydrogen sulphide yields a black precipitate, insoluble in *solution of ammonium hydrosulphide* and in boiling *diluted nitric acid*.

Copper foil immersed in a solution free from excess of *nitric acid* becomes coated with a deposit of mercury which on rubbing becomes bright, and from which the mercury may be volatilised by heat and obtained in globules.

Solution of stannous chloride reduces mercuric salts, first to mercurous salts and then to metallic mercury.

Reactions characteristic of Mercurous salts:

Hydrochloric acid affords a white precipitate insoluble in *water*, which is blackened by *solution of ammonia*.

Solution of potassium or *sodium hydroxide* produces a black precipitate of mercurous oxide, and *solution of ammonia* a black precipitate of a mercurous-amido salt.

Solution of potassium iodide gives a green precipitate soluble in excess of the precipitant.

Reactions characteristic of Mercuric salts:

Solution of ammonia affords a white precipitate.

Solutions of potassium or *sodium hydroxide* yield a yellow precipitate of mercuric oxide.

Solution of potassium iodide produces a scarlet precipitate, soluble in excess of the precipitant, and in a considerable excess of the solution of the mercuric salt.

NITRATES.

Ferrous sulphate and *sulphuric acid*, when added to a solution of a nitrate in such a way that the acid forms a stratum below the aqueous solution, cause a purple or brown coloration at the junction of the two liquids.

Nitrates liberate red fumes when warmed with *sulphuric acid* and *copper*. Nitrates discharge the colour of *solution of indigo sulphate* containing excess of *sulphuric acid*, especially if the mixture is warmed.

NITRITES.

On the addition, to a solution of a nitrite, of a few drops of *diluted sulphuric acid*, *solution of potassium iodide*, and *mucilage of starch*, a blue colour is produced.

Diluted sulphuric acid affords red fumes.

Solution of ferrous sulphate and *acetic acid* yield a deep brown colour.

OXALATES.

Solution of calcium chloride affords a white precipitate, soluble in *hydrochloric acid* but insoluble in *acetic acid*.

Solution of silver nitrate yields a white precipitate, soluble in *solution of ammonia* and in *diluted nitric acid*.

Most oxalates are on ignition converted into carbonates.

Oxalates do not char when heated with *sulphuric acid*, but yield carbonic oxide and carbonic anhydride.

PHOSPHATES (ORTHO-).

Solution of silver ammonio-nitrate yields in solutions of ortho-phosphates a light-yellow precipitate readily soluble in *solution of ammonia* and in cold dilute *nitric acid*.

Test-solution of ferric chloride, in the presence of ammonium acetate or other acetate, yields a whitish precipitate, insoluble in *acetic acid*.

Solution of magnesium ammonio-sulphate affords a white crystalline precipitate.

Excess of *solution of ammonium molybdate,* containing much *nitric acid,* produces, on warming, a yellow precipitate.

POTASSIUM.

Solution of platinic chloride affords with moderately strong solutions of potassium chloride (or with other potassium salts if hydrochloric acid be present) a yellow crystalline precipitate, which, upon ignition, leaves a residue of potassium chloride and platinum.

Potassium compounds moistened with *hydrochloric acid* communicate a violet coloration when introduced, on platinum wire, into the flame of a spirit lamp or Bunsen burner.

SELENIUM AND TELLURIUM.

Selenium and Tellurium may occur in compounds of bismuth. To detect these elements, dissolve the compound in *nitric acid,* add solution of *sodium chloride* or *ammonium chloride,* and dilute freely with *water.* The filtrate from the precipitated oxychloride, mixed with excess of *sodium sulphite,* should give no precipitate or coloration even after twelve hours.

SILICA.

Silica, after exposure to a red heat, is insoluble in acids, and is not dissolved in a bead of *microcosmic salt* when heated to fusion in the blowpipe flame. The result of its fusion with alkalis is soluble in water, the solution yielding a gelatinous precipitate on the addition of *hydrochloric acid.*

SILVER.

Hydrochloric acid and other chlorides afford a white curdy precipitate, soluble in *solution of ammonia* but insoluble in *nitric acid. Solution of potassium chromate,* in the absence of chlorides, bromides, and iodides, affords a red precipitate.

SODIUM.

Sodium compounds, moistened with *hydrochloric acid,* communicate a yellow coloration when introduced, on platinum wire, into the flame of a spirit lamp or Bunsen burner.

STARCH.

When starch is boiled with *water*, the mixture, on cooling, affords a deep blue coloration on the addition of *solution of iodine.*

When boiled for some minutes with *water* acidulated with *hydrochloric acid,* and then made alkaline with *sodium hydroxide,* a red precipitate is formed on further boiling after the addition of *solution of potassio-cupric tartrate.*

The varieties of starch may be distinguished by their microscopical characters.

SULPHATES.

Solution of barium chloride affords a white precipitate insoluble in *hydrochloric acid.*

SULPHIDES.

The official sulphides, hydrosulphides, and sulphurated compounds evolve hydrogen sulphide when boiled with strong *hydrochloric acid.*

Sulphonal and thiocyanates do not evolve hydrogen sulphide when treated in this way. If fused with *sodium carbonate,* mixed with a small proportion of *potassium nitrate,* they afford a·mass which, when dissolved in *water,* responds to the tests for sulphates.

SULPHITES.

Hydrochloric acid liberates sulphurous anhydride, a colourless gas with a pungent smell of burning sulphur.

Hydrochloric acid and *zinc* being added; hydrogen sulphide, recognisable by its odour, is liberated.

Sulphites decolorise *solution of iodine.*

TARTRATES.

Tartrates become charred when heated.

Solution of calcium chloride added in excess to a solution of a neutral tartrate affords a white granular precipitate, soluble, when fresh, in cold moderately concentrated solution of *potassium hydroxide,* from which it is precipitated on boiling. It is also soluble in *tartaric acid.*

Solution of silver nitrate yields a white precipitate, soluble in *solution of ammonia* and in *nitric acid*. The ammoniacal solution is reduced on heating, and deposits metallic silver as a mirror on the sides of the test-tube.

A concentrated solution of *potassium acetate* gives a white precipitate in moderately concentrated solutions when acidulated with *acetic acid* and well stirred, and especially on the addition of *alcohol* (90 per cent.).

If to the solution of tartaric acid in *water*, or of a tartrate acidulated with *acetic acid*, be added a drop of *solution of ferrous sulphate*, then a few drops of *solution of hydrogen peroxide*, and finally an excess of *solution of potassium hydroxide*, a purple or violet colour will be produced.

TELLURIUM. *See* 'Selenium.'

THIOSULPHATES.

Hydrochloric acid gives a yellow precipitate and liberates sulphurous anhydride, recognisable by its odour.

Hydrochloric acid and *zinc* liberate hydrogen sulphide.

Thiosulphates decolorise *solution of iodine*.

TIN.

Metallic *zinc* placed in a solution of any tin salt acidulated with *hydrochloric acid* precipitates the whole of the tin in metallic scales or as a grey sponge. The metal, separated from the liquid, is soluble in boiling concentrated *hydrochloric acid*, and the solution, which contains stannous chloride, gives with *test-solution of mercuric chloride* a white precipitate of calomel, which becomes grey from separation of metallic mercury, if excess of tin salt is present.

ZINC.

Solution of ammonium hydrosulphide yields with neutral, and *hydrogen sulphide* with alkaline solutions, a white precipitate, soluble in *hydrochloric acid* but insoluble in *acetic acid*.

Solution of potassium hydroxide or *of ammonia* affords a white precipitate, soluble in excess of either reagent.

Solution of potassium ferrocyanide produces a white precipitate, insoluble in *diluted hydrochloric acid*.

IV.

TEST-SOLUTIONS FOR VOLUMETRIC ESTIMATIONS.

The following apparatus is required in the preparation and use of these solutions.

1. A glass flask which, when filled to a mark on the neck, contains 1000 grammes of distilled water at 60° F. (15·5° C.). This flask is described as the 'one-litre flask,' and is used in ordinary analytical operations to measure 1000 cubic centimetres; as it is customary for the sake of convenience to make the measurement of liquids with metric apparatus which has thus been graduated at 60° F. (15·5° C.).

2. A graduated cylindrical jar which, when filled to the zero mark at 60° F. (15·5° C.), contains 1000 grammes of distilled water, and is divided into 100 equal parts, each of which is taken as corresponding to 10 cubic centimetres.

3. A burette. A graduated tube which, when filled to the zero mark at 60° F. (15·5° C.), holds, within the graduated portion, 50 grammes of distilled water; the graduated portion is divided into 50 equal parts, each of which is taken as corresponding to 1 cubic centimetre, and each such division is subdivided into 10 equal parts.

A standard Litre contains 1 kilogramme (1000 grammes) of distilled water at the temperature of maximum density (39·2° F. or 4° C.), and at the barometric pressure of 760 millimetres of mercury. One thousandth part of a standard Litre (one millilitre) is, strictly speaking, equivalent to 1·00016 cubic centimetres, or one cubic centimetre to 0·99984 millilitre. Any litre-measure or other piece of volumetric apparatus not actually marked '60° F.' or '15·5° C.' is to be taken as having reference to the standard Litre graduated at 39·2° F. or 4° C.

Volumetric solutions, before being used, should be shaken, in order that they may be throughout of uniform strength. They should also be preserved in stoppered bottles.

VOLUMETRIC SOLUTION OF IODINE.

(Iodine, I = 125·9.)

Iodine	12·59 grammes
Potassium Iodide . . .	18 grammes
Distilled Water . . .	a sufficient quantity

The Iodine should be pure. It may be obtained pure by mixing the official 'Iodum' with one fourth of its weight of dry potassium iodide, resubliming, and leaving the resulting crystals for a few hours under a glass shade placed over a dish containing concentrated *sulphuric acid.*

Put the Iodine and the Potassium Iodide (which should be pure), with about 20 cubic centimetres of Distilled Water, into the one-litre flask; gently agitate until solution is complete; then dilute the solution with Distilled Water until it measures 1000 cubic centimetres.

The strength of this Solution should be verified by the aid of pure arsenious anhydride, pure barium thiosulphate, or other suitable substance, and the Solution (*a*) be either strengthened or diluted, so that 1000 cubic centimetres shall contain exactly 12·59 grammes of Iodine; or (*b*) have its actual strength noted, so that calculations may be made accordingly when the Solution is used.

VOLUMETRIC SOLUTION OF POTASSIUM BICHROMATE.

(Potassium Bichromate, $K_2Cr_2O_7 = 292{\cdot}3$.)

Potassium Bichromate . .	4·87 grammes
Distilled Water . . .	a sufficient quantity

Put the Potassium Bichromate into the one-litre flask; dissolve it in about half a litre of Distilled Water; dilute the solution with Distilled Water until it has the exact bulk of 1000 cubic centimetres. 100 cubic centimetres of this solution yield 0·0794 gramme of oxygen, and are therefore capable of converting 0·556 gramme of iron from the ferrous to the ferric state.

The strength of this Solution should be verified by the aid of pure ferrous ammonium sulphate, or other trustworthy substance, and the Solution (*a*) be either strengthened or diluted, so that 1000 cubic centimetres shall contain exactly 4·87 grammes of potassium bichromate; or (*b*) have its actual strength noted, so that calculations may be made accordingly when the Solution is used.

VOLUMETRIC SOLUTION OF SILVER NITRATE.

(Silver Nitrate, $AgNO_3 = 168{\cdot}69$.)

Silver Nitrate . .	16·869 grammes
Distilled Water . .	a sufficient quantity

Put the Silver Nitrate into the one-litre flask; dissolve it in about half a litre of Distilled Water; dilute the solution with Distilled Water until it has the exact bulk of 1000 cubic centimetres. The solution should be kept in an opaque stoppered bottle.

The strength of this Solution should be verified by the aid of pure sodium chloride or solution of pure hydrochloric acid of known strength, and the Solution (*a*) be either strengthened or diluted, so that 1000 cubic centimetres shall contain exactly 16·869 grammes of silver nitrate; or (*b*) have its actual strength noted, so that calculations may be made accordingly when the Solution is used.

VOLUMETRIC SOLUTION OF SODIUM HYDROXIDE.

(Sodium Hydroxide, $NaOH = 39{\cdot}76$.)

Purified Sodium Hydroxide .	42 grammes
Distilled Water	a sufficient quantity

Dissolve the Purified Sodium Hydroxide in 1000 cubic centimetres of Distilled Water.

Fill a burette with the solution of sodium hydroxide, and cautiously drop this into 100 cubic centimetres of the *volumetric solution of sulphuric acid* until the acid is exactly neutralised as indicated by *litmus*. Note the number of cubic centimetres (n) of the solution of sodium hydroxide used, and having then introduced 800 cubic centimetres of it into a graduated jar, augment this quantity by the addition of water, until it becomes $800 \times 100 \div n$ cubic centimetres. 1000 cubic centimetres then contain exactly 39·76 grammes of sodium hydroxide.

A decinormal volumetric solution of sodium hydroxide may be prepared by adding, to 100 cubic centimetres of the above volumetric solution, sufficient Distilled Water to produce 1000 cubic centimetres.

Alcoholic solutions, normal and decinormal.—Alcohol (90 per cent.) may, when necessary, be used as the solvent. An equivalent proportion of *potassium hydroxide*, $KOH = 55{\cdot}71$, may in certain cases be employed in the place of *sodium hydroxide.*

VOLUMETRIC SOLUTION OF SODIUM THIOSULPHATE.

(Sodium Thiosulphate crystallised, $Na_2S_2O_3,5H_2O = 246{\cdot}44$.)

Sodium Thiosulphate, in crystals .	28 grammes
Distilled Water . . .	a sufficient quantity

Dissolve the Sodium Thiosulphate in 1000 cubic centimetres of Distilled Water. Fill a burette with this solution, and drop it cautiously into 100 cubic centimetres of the *volumetric solution of iodine*, until only a faint brown or yellow colour remains. Add *mucilage of starch* and continue the addition of the thiosulphate solution until the blue colour is discharged. Note the number of cubic centimetres (n) required to produce this effect; then put 800 cubic centimetres of the same solution into a graduated jar, and augment this quantity by the addition of Distilled Water until it amounts to $800 \times 100 \div n$ cubic centimetres. 1000 cubic centimetres then contain exactly 24·644 grammes of sodium thiosulphate.

VOLUMETRIC SOLUTION OF SULPHURIC ACID.

(Sulphuric Acid, $H_2SO_4 = 97{\cdot}34$.)

Sulphuric Acid . .	50 grammes
Distilled Water . .	a sufficient quantity

Dilute the Sulphuric Acid with 900 cubic centimetres of Distilled Water; cool. Prepare a small quantity of sodium carbonate by heating pure sodium bicarbonate to redness in a platinum crucible for a quarter of an hour. Make a solution of 1·053 grammes of the sodium carbonate, and add to it from a burette the solution of sulphuric acid until exact neutrality is obtained, taking care to boil off the carbonic anhydride. Note the number of cubic centimetres used (n), then put 900 cubic centimetres of the solution of sulphuric acid into a graduated jar, and augment this quantity by the addition of Distilled Water until it amounts to $900 \times 20 \div n$ cubic centimetres. 1000 cubic centimetres then contain exactly 48·67 grammes of sulphuric acid.

A decinormal volumetric solution of sulphuric acid may be prepared by adding, to 100 cubic centimetres of the above volumetric solution, sufficient Distilled Water to produce 1000 cubic centimetres.

INDICATORS OF THE TERMINATION OF REACTIONS IN VOLUMETRIC ESTIMATIONS.

Mucilage of Starch.

It gives an intensely blue colour with iodine, at ordinary temperatures.

Solution of Potassium Ferricyanide.

It gives an intensely blue precipitate or coloration with ferrous salts, but none with ferric salts.

Solution of Litmus.

It gives a red colour with acids and a blue colour with alkalis. It is not distinctly reddened by boric acid. It is reddened by moist carbonic anhydride; hence, when estimating a carbonate with a volumetric solution of an acid, the termination of the reaction is indicated by the neutral tint of the litmus after the liquid under examination has been well boiled.

Solution of Methyl Orange.

It gives a pink colour with mineral acids and a faint yellow colour with alkalis. It is a trustworthy indicator of excess of ammonia. It is not reddened by moist carbonic anhydride or boric acid.

Solution of Phenol-phthalein.

It gives a red colour with alkalis, which is discharged by acids. It is the most trustworthy indicator of excess of organic acids. It does not accurately indicate the point of neutralisation of ammonia with an acid. For the latter, Tincture of Cochineal is an appropriate indicator.

Solution of Neutral Potassium Chromate.

It gives a red precipitate with silver nitrate, but not while any soluble chloride, bromide, or iodide is present.

V.

NAMES, SYMBOLS, AND ATOMIC WEIGHTS OF THE CHIEF ELEMENTS MENTIONED IN THE BRITISH PHARMACOPŒIA; H=1·00.

Name	Symbol	Atomic Weight
Aluminium	Al	26·90
Antimony	Sb	119·00
Arsenium	As	74·50
Barium	Ba	136·40
Bismuth	Bi	207·30
Boron	B	10·85
Bromine	Br	79·35
Calcium	Ca	39·71
Carbon	C	11·91
Cerium	Ce	139·20
Chlorine	Cl	35·19
Chromium	Cr	51·74
Copper	Cu	63·12
Gold	Au	195·70
Hydrogen	H	1·00
Iodine	I	125·90
Iron	Fe	55·60
Lead	Pb	205·35
Lithium	Li	6·97
Magnesium	Mg	24·18
Manganese	Mn	54·52
Mercury	Hg	198·80
Nitrogen	N	13·94
Oxygen	O	15·88
Phosphorus	P	30·80
Platinum	Pt	193·30
Potassium	K	38·83
Silver	Ag	107·11
Sodium	Na	22·88
Sulphur	S	31·82
Tin	Sn	118·20
Zinc	Zn	64·91

VI.

THERMOMETRIC MEMORANDA.

Thermometers employed in taking Specific Gravities, Melting Points, or Boiling Points, should have been compared with a standard thermometer, and their errors recorded in a table, by means of which the readings of the instrument used are to be corrected. The zero-point of the instruments should be verified from time to time.

To determine the Melting Point of a substance, a minute fragment of it should be placed in a thin-walled glass tube having an internal diameter of about 1 millimetre ($\frac{1}{25}$ inch), and sealed at the lower end. This tube should be attached to the thermometer so that the substance is near the middle of the bulb, and the thermometer with the attached tube should be immersed in a suitable liquid, contained in a beaker placed over a small lamp flame. Water is suitable for substances melting below 212° F. (100° C.), sulphuric acid, hard paraffin, or glycerin for substances melting at higher temperatures. The liquid should be continually stirred by means of a glass ring moved up and down till the substance is seen to melt. The temperature is noted, the tube cooled till the substance solidifies, and the operation then repeated. The latter reading of the thermometer should be taken as the melting point. To obtain accurate results, the whole of the mercury column of the thermometer should be immersed in the heated liquid ; but as this is seldom practicable, the mean temperature of the emergent column—that is, of that portion above the surface of the heated liquid—should be ascertained and the necessary correction applied. To obtain the mean temperature of the emergent column, a small thermometer is fixed by india-rubber bands in such a position that its bulb is about the middle of the emergent column. The corrected temperature may be calculated with approximate accuracy from the formula :

$$\text{Corrected Temperature} = T + \cdot000143\,(T - t)\,N,$$

in which

T = observed, *i.e.* uncorrected, temperature;
t = mean temperature of the emergent column;
N = the length of the emergent column in scale degrees.

To determine the Boiling Point of a substance, the liquid under examination should be placed in a distilling flask having a side tube for conveying the vapour to a condenser, while the thermometer passes through a cork inserted in the neck. The bulb of the thermometer should be near to, but not immersed in, the liquid, and the whole of the thread of mercury should, if possible, be surrounded by the vapour; the temperature is read off as soon as the liquid is distilling freely. If any considerable length of the mercurial column be not surrounded by the vapour, the temperature of the emergent column should be ascertained as directed under Melting Points, and the necessary correction applied.

VII.

WEIGHTS AND MEASURES OF THE IMPERIAL SYSTEM.

MEASURES OF MASS.

1 Grain	gr.	
1 Ounce (Avoir.)	oz.	= 437·5 grains
1 Pound	lb. = 16 ounces	= 7000 grains

MEASURES OF CAPACITY.

1 Minim	min.	
1 Fluid Drachm	fl. drm.	= 60 minims
1 Fluid Ounce	fl. oz.	= 8 fluid drachms
1 Pint	O.	= 20 fluid ounces
1 Gallon	C.	= 8 pints

MEASURES OF LENGTH.

1 Inch	in.	
1 Foot	ft.	= 12 inches
1 Yard	yd.	= 36 inches

RELATION OF VOLUME TO MASS.

1 Minim is the volume at 62° F. of 0·9114583 grain of water
1 Fluid Drachm ,, ,, ,, 54·6875 grains of water
1 Fluid Ounce ,, 1 ounce or 437·5 grains of water
1 Pint ,, 1·25 pounds or 8750·0 grains of water
1 Gallon ,, 10 pounds or 70000·0 grains of water
109·7143 minims[1] = the volume at 62° F. of 100 grains of water

WEIGHTS AND MEASURES OF THE METRIC SYSTEM.

MEASURES OF MASS.

1 Milligramme = the thousandth part of one grm. or 0·001 grm.
1 Centigramme = the hundredth part of one grm. or 0·01 grm.
1 Decigramme = the tenth part of one grm. or 0·1 grm.
1 Gramme { = weight of one millilitre of distilled water at 4° C. (39·2° F.) } 1·0 grm.
1 Dekagramme = ten grammes or 10·0 grm.
1 Hectogramme = one hundred grammes or 100·0 grm.
1 Kilogramme = one thousand grammes or 1000·0 grm.

MEASURES OF CAPACITY.

1 Millilitre = the volume at 4° C. of 1 grm. of water
1 Centilitre = ,, ,, of 10 grm. of water
1 Decilitre = ,, ,, of 100 grm. of water
1 Litre = ,, ,, of 1000 grm. (1 kilog.)

MEASURES OF LENGTH.

1 Millimetre = one thousandth part of one metre or 0·001 metre
1 Centimetre = one hundredth part of one metre or 0·01 metre
1 Decimetre = one tenth part of one metre or 0·1 metre
1 Metre 1·0 metre

RELATION OF CUBIC MEASURES TO MEASURES OF CAPACITY.

1 Cubic Centimetre = 0·99984 millilitre
1 Cubic Decimetre = 0·99984 litre, or 1000 cub. centim.

1·00016 Cubic Centimetres = 1 millilitre
1·00016 Cubic Decimetres = 1 litre, or 1000 millilitres

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[1] Taken as 110 minims throughout the Pharmacopœia.

RELATION OF THE IMPERIAL STANDARDS TO THE METRIC STANDARDS.

Standards of Mass.

1 Pound = 453·59243 grammes
1 Ounce = 28·34953 grammes, or 28·35 grm. nearly
1 Grain = 0·064798918 gramme, or 0·0648 grm. nearly

Standards of Capacity.

1 Gallon =4·5459631 litres
1 Pint =0·5682454 litre or 568·336 cubic centimetres nearly
1 Fluid Ounce =0·0284123 litre or 28·417 cubic centimetres nearly
1 Fluid Drachm=0·003552 litre or 3·552 cubic centimetres nearly
1 Minim =0·000059 litre or 0·059 cubic centimetre nearly

Standards of Length.

1 Yard = 0·914399 metre
1 Foot = 0·30480 metre = 30·48 centimetres
1 Inch = 0·02540 metre = 25·40 millimetres

RELATION OF THE METRIC STANDARDS TO THE IMPERIAL STANDARDS.

Standards of Mass.

1 Milligramme = 0·015 grain nearly
1 Centigramme = 0·154 grain nearly
1 Decigramme = 1·543 grains nearly
1 Gramme = 15·4323564 grains
1 Kilogramme = 2 lb. 3 oz. 119·8564 gr. or 15432·3564 grains

Standards of Capacity.

1 Cubic Centimetre = 16·9 minims nearly
1 Litre = 1·75980 pints, or 1 pint 15 fl. oz. 1 fl. dr. 34 m. nearly

Standards of Length.

1 Millimetre = 0·039370 inch
1 Centimetre = 0·39370 inch
1 Decimetre = 3·9370 inches
1 Metre = 39·370113 inches, or 1 yd. 3·37 inches nearly

VIII.

TINCTURES.

The Process of Percolation.—Moisten the solid materials with the prescribed quantity of menstruum, and set the mixture aside in a closed vessel for twenty-four hours. Pack the mixture in a percolator; lightly, closely, or otherwise, according to the nature of the materials. Pour over the contents, at intervals, further portions of the menstruum, always maintaining a layer of liquid above the materials, and allow percolation to proceed, slowly at first and afterwards less slowly, until a sufficient quantity of the menstruum has been used to produce about three-fourths of the volume of the finished tincture, or until exhaustion of the solid materials has been effected. When liquid ceases to pass, remove the marc from the percolator and submit it to pressure. Filter the expressed liquid, if necessary, either at once or after standing for twenty-four hours; mix the filtrate with the percolate, and then add a sufficient quantity of menstruum to produce the prescribed volume of tincture.

The Process of Maceration.—Place the solid materials in the whole of the menstruum in a closed vessel for seven days, frequently agitating. Strain. Press the marc. Mix the expressed liquid with the strained liquid. Filter if necessary.

The details and minor variations of the processes for the preparation of the tinctures are left to the judgment of the pharmacist. A cylindrical percolator, preferably of glass or earthenware, may be employed in most cases, of such dimensions as to present to the menstruum a column of solid materials at least six times as high as wide. If a conical percolator be employed, the lower diameter should be not less than one-half the upper diameter. The preliminary treatment for twenty-four hours may be carried on in a closed percolator when desirable. Any necessary clarification may be effected by subsidence, filtration, or both.

IX.

LOZENGES.

PREPARATION WITH FRUIT BASIS.

Take five hundred times the quantity of the drug ordered for one lozenge; mix it intimately with fifteen and a half ounces (or four hundred and thirty-nine and a half grammes) of Refined Sugar, in fine powder, and three hundred grains (or nineteen and a half grammes) of Gum Acacia, in powder. Make the mixture into a paste with one fluid ounce and a quarter (or thirty-five and a half cubic centimetres) of Mucilage of Gum Acacia and two ounces (or fifty-six and three-quarter grammes) of the black-currant paste of commerce previously softened with boiling Distilled Water, adding any additional Distilled Water that may be necessary. Divide the mass into five hundred equal lozenges. Dry them in a hot-air chamber at a moderate temperature.

PREPARATION WITH ROSE BASIS.

Take five hundred times the quantity of the drug ordered for one lozenge; mix it intimately with seventeen and a half ounces (or four hundred and ninety-six grammes) of Refined Sugar, in fine powder, and three hundred grains (or nineteen and a half grammes) of Gum Acacia, in powder. Make the mixture into a paste with five fluid drachms (or seventeen and a half cubic centimetres) of Mucilage of Gum Acacia and a sufficient quantity of the official Rose Water. Divide the mass into five hundred equal lozenges. Dry them in a hot-air chamber at a moderate temperature.

PREPARATION WITH SIMPLE BASIS.

Take five hundred times the quantity of the drug ordered for one lozenge; mix it intimately with seventeen and a half ounces (or four hundred and ninety-six grammes) of Refined Sugar, in fine powder, and three hundred grains (or nineteen and a half grammes) of Gum Acacia, in powder. Make the mixture into a paste with one fluid ounce and a quarter (or thirty-five and a half cubic centimetres) of Mucilage of Gum Acacia and a sufficient quantity of Distilled Water. Divide the mass into five hundred equal lozenges. Dry them in a hot-air chamber at a moderate temperature.

PREPARATION WITH TOLU BASIS.

Take five hundred times the quantity of the drug ordered for one lozenge; dissolve what salts of alkaloids may be ordered in three fluid drachms (or ten and a half cubic centimetres) of Distilled Water; mix the solution intimately with seventeen ounces (or four hundred and eighty-two grammes) of Refined Sugar, in fine powder, and three hundred grains (or nineteen and a half grammes) of Gum Acacia, in powder. Thoroughly incorporate with the mixture any other drugs ordered for the lozenges, and three fluid drachms (or ten and a half cubic centimetres) of Tincture of Balsam of Tolu. Make into a paste with one fluid ounce and a quarter (or thirty-five and a half cubic centimetres) of Mucilage of Gum Acacia and any additional Distilled Water that may be necessary. Divide the mass into five hundred equal lozenges. Dry them in a hot-air chamber at a moderate temperature.

X.

LIST OF BOOKS REFERRED TO, CONTAINING PLATES OF OFFICIAL PLANTS.

BENTLEY AND TRIMEN, *Medicinal Plants.* 4 vols. large 8vo. London, 1875—1880.

BERG UND SCHMIDT, *Darstellung und Beschreibung sämmtlicher in der Pharmacopœa Borussica aufgeführten offizinellen Gewächse.* 4 vols. 4to. Leipzig, 1858—1863.

Botanical Magazine. 8vo. London, 1787--1898.

BRANDT UND RATZEBURG, *Medicinische Zoologie*, 2 vols., 63 Pl. Berlin, 1829—1833.

COLLINS, J., *Report on Caoutchouc.* London, 1872.

HOOKER. *Icones Plantarum.* 27 vols. 8vo. London, 1837—1898.

Kew Bulletin of Miscellaneous Information. 1887.

Lambert, *A Description of the genus Pinus.* 2 vols. folio. London, 1803, 1828.

Martius, C. F. P. von, *Flora Brasiliensis.* 15 vols. folio. Leipzig, 1840—1898.

Moggridge, J. T., *Contributions to the Flora of Mentone.* Large 8vo. London, 1874.

Mueller, F. von, *Eucalyptographia.* Royal 4to. Melbourne, 1879.

Nees von Esenbeck, T. F. L., *Plantæ Medicinales.* 3 vols. plates; 1 vol. text; folio. Düsseldorf, 1828—1833.

Pharmaceutical Journal. Series I.–IV. London, 1842—1898.

Redouté, P. J., *Les Roses.* 3 vols. folio. Paris, 1817—1824.

Ruiz and Pavon, *Flora Peruviana et Chilensis.* 3 vols. folio. Madrid, 1798—1802.

Sargent, C. S., *The Silva of North America.* Folio. 10 vols. Boston and New York, 1891—1896.

Stephenson and Churchill, *Medical Botany.* 4 vols. 8vo. London, 1831.

Transactions of the Linnean Society of London. Botany. 4to. London, 1791—1898.

XI.

ALTERNATIVE PREPARATIONS SANCTIONED FOR USE IN INDIA AND THE COLONIES.

Adeps Induratus.—Lard deprived of a portion of its oil by pressure. Indurated Lard may be employed in India and the Colonies when prevailing high temperatures render the Lard of the Text of the Pharmacopœia too soft for use in Ointments.

Aquæ Olei Anethi, Anisi, Carui, Cinnamomi, Fœniculi, Menthæ Piperitæ, Menthæ Viridis, Pimentæ.—Each of these Waters may be prepared by triturating the corresponding Oil with twice its weight of Calcium Phosphate and five hundred times its volume of Distilled Water and filtering the mixture. In India and other tropical countries these Waters may be used in place of the corresponding *Aquæ* of the Text of the Pharmacopœia.

Extracta Liquida.—Any Liquid Extract, defined in the Text of the Pharmacopœia, containing less than one-fourth of its weight of Alcohol (90 per cent.), may have the proportion of Alcohol (90 per cent.) increased, to an extent not exceeding one-fourth of the weight of the Extract, in India and other tropical countries where otherwise the preparation would be liable to ferment.

Limonis Cortex Siccatus.—In India, and the Colonies where fresh Lemon Peel cannot be obtained, Dried Lemon Peel may be used in preparing Compound Infusion of Orange Peel, Compound Infusion of Gentian, Syrup of Lemon, and Tincture of Lemon.

Suppositoria.—More or less White Beeswax, according to prevailing temperatures, may be used in place of an equivalent amount of Oil of Theobroma in India and the Colonies, when otherwise the Suppositories of the Text of the Pharmacopœia would be too soft for convenient use.

Syrupus Rhœados.—In India and the Colonies, when prevailing high temperatures render this preparation liable to ferment, the proportion of Alcohol (90 per cent.) may be increased, but to not more than double the proportion stated in the Text of the Pharmacopœia, an equivalent quantity of Distilled Water being omitted.

Unguenta.—In India and the Colonies, more or less Indurated Lard, Prepared Suet, Yellow Beeswax, or White Beeswax, may be employed in the preparation of the Ointments of the Text of the Pharmacopœia, when prevailing high temperatures otherwise render the basis too soft for convenient use; but the official proportion of the active ingredient must in all cases be maintained.

INDEX.

A list of the names or titles of the chief preparations and derivatives of every important drug will be found under the principal English name of the drug; titles not containing the principal name being indented. Acetates, carbonates, nitrates, sulphates, and similar salts are indexed under the names of their metals.

The doses of medicines, and the strengths of the chief preparations, have been inserted. The doses given represent the average range, in ordinary cases, for adults. They are meant for general guidance, but are not authoritatively enjoined.

Italic figures refer to the Appendices.

Contractions for certain weights and measures—Imperial: gr. = grain or grains; m. = minim or minims; fl. dr. = fluid drachm or fluid drachms; oz. = ounce or ounces; fl. oz. = fluid ounce or fluid ounces. Metric: grm. = gramme or grammes; c.c. = cubic centimetre or cubic centimetres.

NAME	PAGE	DOSE	STRENGTH
Absolute Alcohol	27, *393*		
Acaciæ Gummi	1		
Acetanilide	2	1 to 3 gr.	
Acetanilidum	2	1 to 3 gr.	
Acetates, Tests for	*416*		
Acetic Acid	4, *393*	. . .	33 per cent. of hydrogen acetate
— — Dilute	4	$\frac{1}{2}$ to 2 fl. dr.	4·27 per cent. of hydrogen acetate
Acetic Acid, Glacial	5, *393*	. . .	99 per cent. of hydrogen acetate
— — and Turpentine, Liniment of	174		
Acetic Ether	26	20 to 40 m. for repeated doses; for a single dose, 60 to 90 m.	
Acetum Cantharidis	2		
— Ipecacuanhæ	3	10 to 30 m.	
— Scillæ	3	10 to 30 m.	
Acid, Acetic	4, *393*	. . .	33 per cent. of hydrogen acetate
— — Diluted	4	$\frac{1}{2}$ to 2 fl. dr.	4·27 per cent. of hydrogen acetate
Acid, Acetic, Glacial	5, *393*	. . .	99 per cent. of hydrogen acetate
Acid, Arsenious	5	$\frac{1}{60}$ to $\frac{1}{15}$ gr.	
Acid, Benzoic	6	5 to 15 gr.	
— — Lozenge	365	. . .	$\frac{1}{2}$ gr. in each
Acid, Boric	7	5 to 15 gr.	

NAME	PAGE	DOSE	STRENGTH
Acid, Boric, Glycerin of	140		
— — Ointment	369		
— — Solution of	*405*		
Acid, Carbolic	8	1 to 3 gr.	
— — Glycerin of	140	. . .	1 oz. in 5 fl. oz. (20 grm. in 100 c.c.)
— — Liquefied	9	1 to 3 m.	90·9 per cent. of Phenol
— — Lozenge	365	. . .	1 gr. in each
— — Ointment	369	. . .	4 per cent.
— — Suppositories	319	. . .	1 gr. in each
Acid, Chromic	9		
— — Solution of	175, *407*		
Acid, Citric	10, *395*	5 to 20 gr.	
Acid, Gallic	11	5 to 15 gr.	
Acid, Hydrobromic, Diluted	11	15 to 60 m.	10 per cent. of hydrogen bromide
Acid, Hydrochloric	12, *396*	. . .	31·79 per cent. of hydrogen chloride
— — Diluted	12, *396*	5 to 20 m.	10·58 per cent. of hydrogen chloride
Acid, Hydrochloric, Gaseous	*396*		
Acid, Hydrocyanic, Diluted	13	2 to 6 m.	2 per cent. of hydrogen cyanide
Acid Infusion of Cinchona	157	½ to 1 fl. oz.	
Acid Infusion of Roses	159	½ to 1 fl. oz.	
Acid, Lactic	13	. . .	75 per cent. of hydrogen lactate
Acid, Nitric	14, *398*	. . .	70 per cent. of hydrogen nitrate
— — Diluted	15, *398*	5 to 20 m.	17·44 per cent. of hydrogen nitrate
Acid, Nitric, Fuming	*398*	. . .	Specific gravity, 1·5
Acid, Nitro-hydrochloric, Diluted	15	5 to 20 m.	
Acid, Oleic	16		
Acid, Phosphoric, Concentrated	17	. . .	66·3 per cent. of hydrogen orthophosphate
— — Diluted	17	5 to 20 m.	13·8 per cent. of hydrogen orthophosphate
Acid, Picric	*399*		
Acid Potassium Sulphite	*400*		
Acid Potassium Tartrate	266	20 to 60 gr.	
Acid Quinine Hydrochloride	276	1 to 10 gr.	
Acid, Salicylic	18	5 to 20 gr.	
— — Ointment	369		

Name	Page	Dose	Strength
Acid Sodium Sulphite . .	*401*		
Acid Solution of Mercuric Nitrate	190		
Acid, Sulphuric .	19, *402*	. . .	98 per cent. of hydrogen sulphate
Acid, Sulphuric, Aromatic . .	20	5 to 20 m.	Acidity = 13·8 per cent. of hydrogen sulphate
Acid, Sulphuric, Diluted . .	20, *402*	5 to 20 m.	13·65 per cent. of hydrogen sulphate
Acid, Sulphuric, Volumetric Solution of . .	*433*		
Acid, Sulphurous .	21	$\frac{1}{2}$ to 1 fl. dr.	6·4 per cent. of hydrogen sulphite
Acid, Sulphurous, Solution . .	*415*		
Acid, Tannic . .	21	2 to 5 gr.	
— — Glycerin of .	140	. . .	1 oz. in 5 fl. oz.
— — Lozenge .	365	. . .	$\frac{1}{2}$ gr. in each
— — Solution of .	415		
— — Suppositories	320	. . .	3 gr. in each
Acid, Tartaric .	22, *402*	5 to 20 gr.	
Acid, Tartaric, Solution . .	*415*		
Acidum Aceticum	4	. . .	33 per cent. of hydrogen acetate
— — Dilutum .	4	$\frac{1}{2}$ to 2 fl. dr.	4·27 per cent. of hydrogen acetate
Acidum Aceticum Glaciale . .	5	. . .	99 per cent. of hydrogen acetate
Acidum Arseniosum . . .	5	$\frac{1}{60}$ to $\frac{1}{15}$ gr.	
Acidum Benzoicum	6	5 to 15 gr.	
Acidum Boricum .	7	5 to 15 gr.	
Acidum Carbolicum	8	1 to 3 gr.	
— — Liquefactum	9	1 to 3 m.	90·9 per cent. of Phenol
Acidum Chromicum	9		
Acidum Citricum .	10	5 to 20 gr.	
Acidum Gallicum .	11	5 to 15 gr.	
Acidum Hydrobromicum Dilutum	11	15 to 60 m.	10 per cent. of hydrogen bromide
Acidum Hydrochloricum . .	12	. . .	31·79 per cent. of hydrogen chloride
— — Dilutum .	12	5 to 20 m.	10·58 per cent. of hydrogen chloride
Acidum Hydrocyanicum Dilutum .	13	2 to 6 m.	2 per cent. of hydrogen cyanide
Acidum Lacticum .	13	. . .	75 per cent. of hydrogen lactate
Acidum Nitricum .	14	. . .	70 per cent. of hydrogen nitrate

Name	Page	Dose	Strength
Acidum Nitricum Dilutum	15	5 to 20 m.	17·44 per cent. of hydrogen nitrate
Acidum Nitro-hydrochloricum Dilutum	15	5 to 20 m.	
Acidum Oleicum	16		
Acidum Phosphoricum Concentratum	17	. . .	66·3 per cent. of hydrogen orthophosphate
— — Dilutum	17	5 to 20 m.	13·8 per cent. of hydrogen orthophosphate
Acidum Salicylicum	18	5 to 20 gr.	
Acidum Sulphuricum	19	. . .	98 per cent. of hydrogen sulphate
— — Aromaticum	20	5 to 20 m.	Acidity = 13·8 per cent. of hydrogen sulphate
— — Dilutum	20	5 to 20 m.	13·65 per cent. of hydrogen sulphate
Acidum Sulphurosum	21	½ to 1 fl. dr.	6·4 per cent. of hydrogen sulphite
Acidum Tannicum	21	2 to 5 gr.	
Acidum Tartaricum	22	5 to 20 gr.	
Aconite Root	22		
— Liniment of	169	. . .	1 oz. of Root yields 1½ fl. oz.
— Tincture of	336	5 to 15 m.; very frequently repeated, 2 to 5 m.	1 oz. of Root yields 20 fl. oz.
Aconitine	23		
— Ointment	369	. . .	2 per cent.
Aconiti Radix	22		
Aconitina	23		
Aconitine	23		
— Ointment	369	. . .	2 per cent.
Actææ Racemosæ Radix	76		
Adeps	23		
— Benzoatus	24		
— Induratus	443		
Adeps Lanæ	24		
— — Hydrosus	25		
Adhesive Plaster	99		
Æther	25	10 to 30 m. for repeated doses; for a single dose, 40 to 60 m.	

NAME	PAGE	DOSE	STRENGTH
Æther Aceticus .	26	20 to 40 m. for repeated doses; for a single dose, 60 to 90 m.	
Æther Purificatus .	26		
Albumen . .	*393*		
— Solution of .	*403*		
Alcohol, Absolute .	27, *393*		
Alcohol Absolutum . . .	27		
Alcohol 90 per cent.	310, *393*	. . .	The percentages represent volumes of ethyl hydroxide in 100 volumes
— 70 per cent. .	311, *393*		
— 60 ,, .	311		
— 45 ,, .	311		
— 20 ,, .	312		
Alcohol, Amylic .	*394*		
Alcoholic Extract of Belladonna .	102	¼ to 1 gr. .	1 per cent. of alkaloids
Alcoholic Solution of Potassium Hydroxide .	*413*		
Almond, Bitter .	33		
— Oil . . .	223		
Almond, Sweet .	34		
Almonds, Compound Powder of	268		
Almond Mixture	214	½ to 1 fl. oz.	
Aloe Barbadensis .	28	2 to 5 gr.	
Aloe Socotrina .	28	2 to 5 gr.	
Aloes, Barbados .	28	2 to 5 gr.	
— — Extract of .	101	1 to 4 gr.	
— — Pill of . .	247	4 to 8 gr.	2 gr. in 4 gr., nearly
— Compound Decoction of . .	93	½ to 2 fl. oz.	Nearly 4½ gr. of Extract of Barbados Aloes in 1 fl. oz.
— and Iron, Pill of	247	4 to 8 gr.	1 gr. of Barb. Aloes and ½ gr. of Exsiccated Ferrous Sulphate in 4½ gr.
— Tincture of .	337	½ to 1 fl. dr. for repeated doses; for a single dose, 1½ to 2 fl. dr.	1 oz. of Extract of Barbados Aloes in 40 fl. oz.
Aloin . .	29	½ to 2 gr.	
Colocynth, Compound Extract of .	109	2 to 8 gr.	
— — Pill of .	249	4 to 8 gr.	
— and Hyoscyamus, Pill of . .	249	4 to 8 gr.	

NAME	PAGE	DOSE	STRENGTH
Gamboge, Compound Pill of	248	4 to 8 gr.	
Aloes, Curaçao	28	2 to 5 gr.	
Aloes, Hepatic. See Socotrine Aloes	28		
Aloes, Socotrine	28	2 to 5 gr.	
— — Pill of	248	4 to 8 gr.	2 gr. in 4 gr., nearly
— and Asafetida, Pill of	247	4 to 8 gr.	1 gr. of Socotrine Aloes and 1 gr. of Asafetida in 4 gr.
— and Myrrh, Pill of	248	4 to 8 gr.	1 gr. of Socotrine Aloes in 2 gr., nearly
Aloin	29	½ to 2 gr.	
Benzoin, Compound Tincture of	339	½ to 1 fl. dr.	
Rhubarb, Compound Pill of	253	4 to 8 gr.	
Aloes, Zanzibar	28	2 to 5 gr.	
Aloin, Aloinum	29	½ to 2 gr.	
Alum	29, *393*	5 to 10 gr.	
— Exsiccated	30		
— Glycerin of	141	. . .	1 oz. in 6 fl. oz.
Alumen	29	5 to 10 gr.	
— Exsiccatum	30		
Aluminium, Tests for	*416*		
Ammonia, Solution of	176, *403*	. . .	10 per cent. of ammonia (gas)
— Liniment of	170		
Ammonia, Strong Solution of	176, *403*	. . .	32½ per cent. of ammonia (gas)
— Aromatic Spirit of	305	20 to 40 m. for repeated doses; for a single dose, 60 to 90 m.	2·17 gr. of ammonia (gas) in 110 m. (2·17 grm. in 100 c. c.)
— Fetid Spirit of	306	20 to 40 m. for repeated doses; for a single dose, 60 to 90 m.	2·88 gr. of ammonia (gas) in 110 m. (2·88 grm. in 100 c. c.)
Ammoniacum	30	5 to 15 gr.	
— and Mercury Plaster	96		
— Mixture	214	½ to 1 fl. oz.	
Ammoniated Liniment of Camphor	171		
Ammoniated Mercury	151		

NAME	PAGE	DOSE	STRENGTH
Ammoniated Mercury Ointment .	374		
Ammoniated Tincture of Ergot .	348	½ to 1 fl. dr.	
— — — Guaiacum	349	½ to 1 fl. dr.	
— — — Opium .	358	½ to 1 fl. dr.	Nearly 5 gr. of Opium or ½ gr. of morphine in 1 fl. oz.
— — — Quinine .	360	½ to 1 fl. dr.	Nearly 9 gr. of Quinine Sulphate in 1 fl. oz.
— — — Valerian .	364	½ to 1 fl. dr.	
Ammonii Benzoas .	31	5 to 15 gr.	
— Bromidum .	31	5 to 30 gr.	
— Carbonas . .	32	3 to 10 gr.	
— Chloridum .	32	5 to 20 gr.	
— Phosphas . .	33	5 to 20 gr.	
Ammonio-chloride of Mercury .	151		
Ammonio-nitrate of Silver Solution . .	*413*		
Ammonio-sulphate of Copper Solution . . .	*407*		
Ammonio-sulphate of Magnesium Solution . .	*409*		
Ammonium Acetate, Solution of	177, *403*	2 to 6 fl. dr.	
— Benzoate . .	31	5 to 15 gr.	
— Bromide . .	31	5 to 30 gr.	
— Carbonate . .	32	3 to 10 gr.	
— — Solution of	*404*		
— Chloride . .	32	5 to 20 gr.	
— — Solution of .	*404*		
— — Solution of (Nessler's) . .	*404*		
— Citrate, Solution of . .	177, *404*	2 to 6 fl. dr.	
— Hydrosulphide, Solution of .	*404*		
— Molybdate .	*393*		
— — Solution of .	*404*		
— Oxalate . .	*393*		
— — Solution of .	*404*		
— Phosphate .	33	5 to 20 gr.	
— Salts, Tests for .	*416*		
— Thiocyanate .	*393*		
— — Solution of .	*405*		
Amygdala Amara .	33		
Amygdala Dulcis .	34		

Name	Page	Dose	Strength
Amyl Nitris Amyl Nitrite	34	For inhalation—The vapour of 2 to 5 m.	
Amylic Alcohol	*394*		
— — Benzolated	*394*		
Amylum	35		
Anethi Fructus	35		
Anise Fruit	36		
— Oil of	223	$\frac{1}{2}$ to 3 m.	
— Spirit of	306	5 to 20 m.	
— Water	40, *443*		
Anisi Fructus	36		
Anthemidis Flores	36		
Antimonial Wine	383	Diaphoretic, 10 to 30 m.; emetic, 2 to 4 fl. dr.	2 gr. of Tartarated Antimony in 1 fl. oz.
Antimonii Oxidum	37	1 to 2 gr.	
Antimonious Oxide	37	1 to 2 gr.	
Antimonial Powder	268	3 to 6 gr.	1 gr. of Antimonious Oxide in 3 gr.
Antimonious Sulphide	37		
Antimonium Nigrum Purificatum	37		
— Sulphuratum	38	1 to 2 gr.	
— Tartaratum	39	Diaphoretic, $\frac{1}{24}$ to $\frac{1}{8}$ gr.; emetic, 1 to 2 gr.	
Antimony, Sulphurated	38	1 to 2 gr.	
— Tartarated	39	Diaphoretic, $\frac{1}{24}$ to $\frac{1}{8}$ gr.; emetic, 1 to 2 gr.	
— Wine	383	Diaphoretic, 10 to 30 m.; emetic, 2 to 4 fl. dr.	2 gr. of Tartarated Antimony in 1 fl. oz.
— Tests for	*417*		
Apomorphinæ Hydrochloridum Apomorphine Hydrochloride	39	$\frac{1}{20}$ to $\frac{1}{10}$ gr. by subcutaneous injection; by the mouth, $\frac{1}{10}$ to $\frac{1}{4}$ gr.	
— Hypodermic Injection of	161	By subcutaneous injection, 5 to 10 m.	1 gr. in 110 m. (1 grm. in 100 c.c.)

NAME	PAGE	DOSE	STRENGTH
Apparatus for Volumetric Analysis	*430*		
Aqua Anethi	40, *443*		
— Anisi	40, *443*		
— Aurantii Floris	40		
— Camphoræ	41		
— Carui	41, *443*		
— Chloroformi	41	. . .	$\frac{1}{4}$ m. in 100 m. (0·25 c.c. in 100 c.c.)
— Cinnamomi	42, *443*		
— Destillata	42		
— Fœniculi	42, *443*		
— Laurocerasi	43	$\frac{1}{2}$ to 2 fl. dr.	$\frac{1}{10}$ per cent. of hydrogen cyanide
— Menthæ Piperitæ	43, *443*		
— Menthæ Viridis	43, *443*		
— Pimentæ	43, *443*		
— Rosæ	44		
— Sambuci	44		
Araroba	44		
Argenti Nitras	45	$\frac{1}{4}$ to $\frac{1}{2}$ gr.	
— — Induratus	45	. . .	95 per cent. of Silver Nitrate
— — Mitigatus	46	. . .	$33\frac{1}{3}$ per cent. of Silver Nitrate
Argenti Oxidum	46	$\frac{1}{2}$ to 2 gr.	
Armoraciæ Radix	46		
Arnica Rhizome	47		
— Tincture of	337		
Arnicæ Radix	47		
Arnicæ Rhizoma	47		
Aromatic Powder of Chalk	269	10 to 60 gr.	
— — — — with Opium	270	10 to 40 gr.	$2\frac{1}{2}$ per cent. of Opium
Aromatic Spirit of Ammonia	305	20 to 40 m. for repeated doses; for a single dose, 60 to 90 m.	2·17 gr. of ammonia (gas) in 110 m. (2·17 grm. in 100 c.c.)
Aromatic Sulphuric Acid	20	5 to 20 m.	Acidity = 13·8 per cent. of hydrogen sulphate
Aromatic Syrup	322	$\frac{1}{2}$ to 1 fl. dr.	
Aromatic Syrup of Cascara	324	$\frac{1}{2}$ to 2 fl. dr.	
Arsenate, Iron	125	$\frac{1}{16}$ to $\frac{1}{4}$ gr.	
Arsenate, Sodium	291, *400*	$\frac{1}{40}$ to $\frac{1}{10}$ gr.	
Arsenates and Arsenites, tests for	*418*		
Arsenic	5	$\frac{1}{60}$ to $\frac{1}{15}$ gr.	
— Hydrochloric Solution of	178	2 to 8 m.	1 gr. Arsenic in 110 m. (1 grm. in 100 c.c.)
Arsenical Solution	178	2 to 8 m.	1 gr. Arsenic in 110 m. (1 grm. in 100 c.c.)

Name	Page	Dose	Strength
Arsenii Iodidum .	47	$\frac{1}{20}$ to $\frac{1}{5}$ gr.	
Arsenious Acid .	5	$\frac{1}{60}$ to $\frac{1}{15}$ gr.	
Arsenious Anhydride . . .	5	$\frac{1}{60}$ to $\frac{1}{15}$ gr.	
Arsenic, Hydrochloric Solution of .	178	2 to 8 m.	1 gr. Arsenic in 110 m. (1 grm. in 100 c.c.)
Arsenical Solution .	178	2 to 8 m.	1 gr. Arsenic in 110 m. (1 grm. in 100 c.c.)
— Iodide . .	47	$\frac{1}{20}$ to $\frac{1}{5}$ gr.	
— — and Mercuric Iodide, Solution of . . .	179	5 to 20 m.	1 gr. of each in 110 m. (1 grm. of each in 100 c.c.
Arsenium, Tests for	*418*		
Articles employed in chemical testing . . .	*393*		
Asafetida . .	48	5 to 15 gr.	
— and Aloes, Pill of	247	4 to 8 gr.	
— Tincture of .	337	$\frac{1}{2}$ to 1 fl. dr.	
Compound Pill of Galbanum .	250	4 to 8 gr.	1 gr. of Asafetida in 3$\frac{1}{2}$ gr.
Fetid Spirit of Ammonia	306	20 to 40 m. for repeated doses; for a single dose, 60 to 90 m.	
Atomic Weights, List of . .	*435*		
Atropina . .	48	$\frac{1}{200}$ to $\frac{1}{100}$ gr.	
Atropinæ Sulphas .	49	$\frac{1}{200}$ to $\frac{1}{100}$ gr.	
Atropine . .	48	$\frac{1}{200}$ to $\frac{1}{100}$ gr.	
— Ointment . .	370		
Atropine Sulphate .	49	$\frac{1}{200}$ to $\frac{1}{100}$ gr.	
— — Discs of .	168	. . .	$\frac{1}{5000}$ gr. in each
— — Solution of .	180	$\frac{1}{2}$ to 1 m.	1 gr. in 110 m. (1 grm. in 100 c.c.)
Aurantii Cortex Recens . .	49		
— — Siccatus .	50		
Auric Chloride, Solution of . .	*405*		
Balsam, Canada .	335		
Balsam of Peru .	50	5 to 15 m.	
Balsam of Tolu .	51	5 to 15 gr.	
— — — Syrup of .	332	$\frac{1}{2}$ to 1 fl. dr.	
— — — Tincture of	363	$\frac{1}{2}$ to 1 fl. dr.	
Balsamum Peruvianum . .	50	5 to 15 m.	

Name	Page	Dose	Strength
Balsamum Tolutanum	51	5 to 15 gr.	
Barbados Aloes	28	2 to 5 gr.	
— — Extract of	101	1 to 4 gr.	
— — Pill of	247	4 to 8 gr.	2 gr. in 4 gr., nearly
Aloes, Compound Decoction of	93	½ to 2 fl. oz.	Nearly 4½ gr. of Extract of Barbados Aloes in 1 fl. oz.
— and Iron Pill	247	4 to 8 gr.	1 gr. of Barbados Aloes in 4½ gr.
— Tincture of	337	½ to 1 fl. dr. for repeated doses; for a single dose, 1½ to 2 fl. dr.	1 oz. of Extract of Barbados Aloes in 40 fl. oz.
Aloin	29	½ to 2 gr.	
Colocynth, Compound Extract of	109	2 to 8 gr.	
— — Pill of	249	4 to 8 gr.	
— and Hyoscyamus, Pill of	249	4 to 8 gr.	
Gamboge, Compound Pill of	248	4 to 8 gr.	
Barium Chloride	*394*		
— — Solution of	*405*		
Barium Hydroxide	*394*		
— — Solution of	*405*		
Bark, Cinchona, Red	77		
— Cinnamon	79		
— Cusparia	92		
— Euonymus	101		
— Hamamelis	145		
— Mezereon	213		
— Panama	275		
— Pomegranate	144		
— Quillaia	275		
— Sacred	69		
— Virginian Prune	267		
Bean, Calabar	244		
Bearberry Leaves	381		
— Infusion of	161	½ to 1 fl. oz.	
Beeswax, White	71		
Beeswax, Yellow	71		
Belladonna Leaves	52		
— Green Extract of	104	¼ to 1 gr.	

Name	Page	Dose	Strength
Belladonna, Juice of	315	5 to 15 m.	
Atropine	48	$\frac{1}{200}$ to $\frac{1}{100}$ gr.	
— Discs of	168	. . .	$\frac{1}{5000}$ gr. Atropine Sulphate in each
— Ointment of	370		
— Sulphate	49	$\frac{1}{200}$ to $\frac{1}{100}$ gr.	
— — Solution of	180	$\frac{1}{2}$ to 1 m.	1 gr. in 110 m. (1 grm. in 100 c.c.)
Belladonna Root	52		
— Alcoholic Extract of	102	$\frac{1}{4}$ to 1 gr.	1 per cent. of alkaloids
— Liniment of	170		
— Liquid Extract of	103	. . .	$\frac{3}{4}$ gr. of alkaloids in 110 m. (0·75 grm. in 100 c.c.)
— Ointment	370		
— Plaster	96		
— Suppositories	320	. . .	$\frac{1}{60}$ gr. of alkaloids in each
— Tincture of	338	5 to 15 m.	$\frac{1}{20}$ gr. of alkaloids in 110 m. (0·05 grm. in 100 c.c.)
Atropine	48	$\frac{1}{200}$ to $\frac{1}{100}$ gr.	
— Discs of	168	. . .	$\frac{1}{5000}$ gr. of Atropine Sulphate in each
— Ointment of	370		
— Sulphate	49	$\frac{1}{200}$ to $\frac{1}{100}$ gr.	
— — Solution of	130	$\frac{1}{2}$ to 1 m.	1 gr. in 110 m. (1 grm. in 100 c.c.)
Belladonnæ Folia	52		
Belladonnæ Radix	52		
Benzoate, Ammonium	31	5 to 15 gr.	
Benzoate, Sodium	292	5 to 30 gr.	
Benzoated Lard	24		
Benzoic Acid	6	5 to 15 gr.	
— — Lozenge	365		
Benzoin	53		
— Compound Tincture of	339	$\frac{1}{2}$ to 1 fl. dr.	
Benzoinum	53		
Benzol	53, *394*		
Benzolated Amylic Alcohol	*394*		
Benzoyl - sulphonic-imide	138		
Beta-naphthol	221	3 to 10 gr.	
Biborate of Sodium	56	5 to 20 gr.	
Bicarbonates, Tests for	*420*		
Bichloride of Mercury	150	$\frac{1}{32}$ to $\frac{1}{16}$ gr.	
Bile. See Purified Ox Bile	125	5 to 15 gr.	

NAME	PAGE	DOSE	STRENGTH
Biniodide of Mercury	148	$\frac{1}{32}$ to $\frac{1}{16}$ gr.	
Bismuth and Ammonium Citrate, Solution of	180	½ to 1 fl. dr.	
— Lozenge, Compound	366		2 gr. of Bismuth Oxycarbonate in each
— Oxide	54	5 to 20 gr.	
— Oxycarbonate	53	5 to 20 gr.	
— Oxynitrate	55, *394*	5 to 20 gr.	
— Salicylate	55	5 to 20 gr.	
— Tests for	*419*		
Bismuthi Carbonas	53	5 to 20 gr.	
— Oxidum	54	5 to 20 gr.	
— Salicylas	55	5 to 20 gr.	
— Subnitras	55	5 to 20 gr.	
Bitartrate of Potassium	266	20 to 60 gr.	
Bitter Almond	33		
Almond Oil	223		
Bitter-Orange Peel, Fresh	49		
— — — Dried	50		
Black Antimony, Purified	37		
Black Draught	217	1 to 2 fl. oz.	
Black Mercurial Lotion	208		
Black Mustard Seed	290		
Black Pepper	254		
Black Wash	208		
Blistering Collodion	85		
Blistering Liquid	185		
Blue Pill	250	4 to 8 gr.	33⅓ per cent. of Mercury
Books of reference	*442*		
Boracic Acid	7	5 to 15 gr.	
Borax	56, *395*	5 to 20 gr.	
— Glycerin of	141		1 oz. of Borax to 6 fl. oz. of Glycerin
— Honey	212		
Boric Acid	7	5 to 15 gr.	
— — Glycerin of	140		
— — Ointment	369		
— — Solution of	*405*		
Brandy	312		
— Mixture of	217	1 to 2 fl. oz.	
Bromates, Tests for	*419*		
Bromide, Ammonium	31	5 to 30 gr.	
Bromide, Potassium	261	5 to 30 gr.	
Bromide, Sodium	293	5 to 30 gr.	

Name	Page	Dose	Strength
Bromides, Tests for	*419*		
Bromine . .	*395*		
— Solution of .	*406*		
Broom Tops . .	287		
— Infusion of .	160	1 to 2 fl. oz.	
— Juice of . .	316	1 to 2 fl. dr.	
Buchu Folia . .	57		
Buchu Leaves .	57		
— Infusion of .	155	1 to 2 fl. oz.	
— Tincture of .	339	$\frac{1}{2}$ to 1 fl. dr.	
Burgundy Pitch .	255		
Butyl-Chloral Hydras . . .	57	5 to 20 gr.	
Butyl-Chloral Hydrate . . .	57	5 to 20 gr.	
Cacao Butter . .	235		
Cadmium Iodide .	*395*		
— — Solution of .	*406*		
Cadmium, Tests for	*420*		
Caffeina . .	58	1 to 5 gr.	
Caffeinæ Citras .	58	2 to 10 gr.	
— — Effervescens .	59	60 to 120 gr.	
Caffeine . . .	58	1 to 5 gr.	
— Citrate . .	58	2 to 10 gr.	
— — Effervescent .	59	60 to 120 gr.	
Cajuput, Oil of .	224	$\frac{1}{2}$ to 3 m.	
— Spirit of . .	307	5 to 20 m.	
Calabar Bean . .	244		
— — Extract of .	121	$\frac{1}{4}$ to 1 gr.	
Physostigmine Sulphate .	245	$\frac{1}{60}$ to $\frac{1}{20}$ gr.	
— Discs of . .	168	. . .	$\frac{1}{1000}$ gr. in each
Calcii Carbonas Præcipitatus .	60	10 to 60 gr.	
— Chloridum .	60	5 to 15 gr.	
— Hydras . .	60		
— Hypophosphis .	61	3 to 10 gr.	
— Phosphas . .	61	5 to 15 gr.	
Calcis. See Calcii			
Calcium Carbonate	*395*		
— — Precipitated .	60	10 to 60 gr.	
— Chloride . .	60	5 to 15 gr.	
— — Solution of .	*406*		
— Hydrate . .	60		
— Hydroxide .	60, *395*		
— — Solution of .	181, *409*	1 to 4 fl. oz.	$\frac{1}{2}$ gr. of Lime in 1 fl. oz.
— Hypophosphite	61	3 to 10 gr.	
—Lactophosphate, Syrup of . .	323	$\frac{1}{2}$ to 1 fl. dr.	
— Oxide . .	*395*		

Name	Page	Dose	Strength
Calcium Phosphate	61	5 to 15 gr.	
— Sulphate . .	*395*		
— — Solution of .	*406*		
— Tests for . .	*420*		
Calomel . . .	150	½ to 5 gr.	
— Ointment . .	377		
— Pill, Compound .	251	4 to 8 gr.	1 gr. of Calomel in 4½ gr.
Calumba Root .	62		
— Concentrated Solution of	183	½ to 1 fl. dr.	
— Infusion of .	156	½ to 1 fl. oz.	
— Tincture of .	339	½ to 1 fl. dr.	
Calumbæ Radix .	62		
Calx . . .	62		
Calx Chlorinata .	63		
Calx Sulphurata .	63	¼ to 1 gr.	
Cambogia . .	64	½ to 2 gr.	
Camphor . .	64	2 to 5 gr.	
— Liniment of .	171		
— — — Ammoniated	171		
— — — Compound	171		
— Spirit of . .	307	5 to 20 m.	
— Tincture of, Compound	340	½ to 1 fl. dr.	1 fl. dr. equals ¼ gr. of Opium
— Water . .	41		
Camphora . .	64	2 to 5 gr.	
Camphorated Oil .	171		
Canada Balsam .	335		
— Turpentine .	335		
Cannabis Indica .	65		
Cantharides . .	65		
— Ointment of .	371	. . .	10 per cent., nearly
— Plaster . .	97	. . .	35 per cent.
— Tincture of .	341	5 to 15 m.; for repeated doses, 2 to 5 m.	1¼ gr. in 110 m. (1·25 grm. in 100 c.c.)
— Vinegar of .	2	. . .	10 gr. in 110 m. (10 grm. in 100 c.c.)
Blistering Liquid	185	. . .	50 gr. in 110 m. (50 grm. in 100 c.c.)
Warming Plaster	97		
Cantharis . .	65		
Caoutchouc . .	66		
Capsici Fructus .	66		
Capsicum . .	66		
— Ointment . .	371		
— Tincture of .	341	5 to 15 m.	
Capsules, Poppy .	239		
Caraway Fruit .	68		
— Water . .	41, *443*		

NAME	PAGE	DOSE	STRENGTH
Carbo Ligni	66	60 to 120 gr.	
Carbolic Acid	8	1 to 3 gr.	
— — Glycerin of	140	. . .	1 oz. in 5 fl. oz. (20 grm. in 100 c.c.)
— — Liquefied	9	1 to 3 m.	90·9 per cent. of Phenol
— — Lozenge	365	. . .	1 gr. in each
— — Ointment	369	. . .	4 per cent.
— — Suppositories	319	. . .	1 gr. in each
Carbon Bisulphide	67, *395*		
— Disulphide	67		
Carbonates, Tests for	*420*		
Carbonis Bisulphidum	67		
Cardamom Seeds	67		
— Tincture of, Compound	341	½ to 1 fl. dr.	
Cardamomi Semina	67		
Carui Fructus	68		
Caryophyllum	68		
Cascara Sagrada	69		
— — Extract of	105	2 to 8 gr.	
— — Liquid Extract of	105	½ to 1 fl. dr.	
— Aromatic Syrup of	324	½ to 2 fl. dr.	
Cascarilla	69		
— Infusion of	156	½ to 1 fl. oz.	
— Tincture of	342	½ to 1 fl. dr.	
Cassia Pulp	70		
Cassiæ Pulpa	70		
Castor Oil	232	1 to 8 fl. dr.	
— — Mixture	216	1 to 2 fl. oz.	3 fl. dr. in 1 fl. oz.
Catechu	70	5 to 15 gr.	
— Compound Powder of	269	10 to 40 gr.	
— Lozenge	366	. . .	1 gr. in each
— Tincture of	342	½ to 1 fl. dr.	
Catechu Pallidum	70	5 to 15 gr.	
Caustic, Lunar	45	¼ to ½ gr.	
— Mitigated	46	. . .	33⅓ per cent. of Silver Nitrate
— Toughened	45	. . .	95 per cent. of Silver Nitrate
Caustic Potash	258, *400*		
Caustic Soda	*401*		
Cera Alba	71		
Cera Flava	71		
Cerii Oxalas	72	2 to 10 gr.	
Cerium Oxalate	72	2 to 10 gr.	
Cetaceum	72		
Chalk, Prepared	90	10 to 60 gr.	

NAME	PAGE	DOSE	STRENGTH
Chalk, Aromatic Powder of . .	269	10 to 60 gr.	
— Mercury with .	152	1 to 5 gr.	$33\frac{1}{3}$ per cent. of Mercury
— Mixture . .	215	$\frac{1}{2}$ to 1 fl. oz.	
— with Opium, Aromatic Powder of	270	10 to 40 gr.	$2\frac{1}{2}$ per cent. of Opium
Chamomile Flowers	36		
— Extract of . .	102	2 to 8 gr.	
— Oil of . .	224	$\frac{1}{2}$ to 3 m.	
Charcoal, Wood .	66	60 to 120 gr.	
Charta Sinapis .	73		
Cherry-Laurel Leaves	169		
— — Water . .	43	$\frac{1}{2}$ to 2 fl. dr.	$\frac{1}{10}$ per cent. of hydrogen cyanide
Chirata . . .	73		
Chiretta . .	73		
— Concentrated Solution of . .	184	$\frac{1}{2}$ to 1 fl. dr.	
— Infusion of .	156	$\frac{1}{2}$ to 1 fl. oz.	
— Tincture of .	342	$\frac{1}{2}$ to 1 fl. dr.	
Chloral Hydras .	74	5 to 20 gr.	
Chloral Hydrate .	74	5 to 20 gr.	
— Syrup of . .	324	$\frac{1}{2}$ to 2 fl. dr.	10 gr. in 1 fl. dr.
Chloric Ether .	308	5 to 20 m. for repeated doses; for a single dose, 30 to 40 m.	5 m. of Chloroform in 100 m. (5 c.c. in 100 c.c.)
Chlorides, Tests for	*420*		
Chlorinated Lime .	63		
— — Solution of .	182		
Chlorinated Soda, Solution of .	201, *406*	10 to 20 m.	
Chlorine, Sol. of .	*406*		
Chloroform . .	75, *395*	1 to 5 m.	
— Compound Tincture of, and Morphine . .	343	5 to 15 m.	$\frac{3}{4}$ m. of Chlorof., $\frac{1}{2}$ m. of Dil. Hydrocy. Acid, 1 m. of Tinct. Ind. Hemp, $\frac{1}{11}$ gr. of Morph. Hydrochlor., in 10 m.
— Liniment of .	172	. . .	1 fl. oz. in 2 fl. oz. (50 c.c. in 100 c.c.)
— Spirit of . .	308	5 to 20 m. for repeated doses; for a single dose, 30 to 40 m.	5 m. in 100 m. (5 c.c. in 100 c.c.)
— Water . .	41	. . .	$\frac{1}{4}$ m. in 100 m. (0·25 c.c. in 100 c.c.)
Chloroformum .	75	1 to 5 m.	

Name	Page	Dose	Strength
Chromic Acid .	9		
— — Solution of .	175, *407*		
Chromic Anhydride	9		
Chrysarobin . .	76		
— Ointment . .	372		
Chrysarobinum .	76		
Cimicifuga . .	76		
— Liquid Ext. of .	106	5 to 30 m.	
— Tincture of .	344	½ to 1 fl. dr.	
Cimicifugæ Rhizoma . .	76		
Cinchona Bark, Red	77		
— Acid Infusion of	157	½ to 1 fl. oz.	
— Extract of, Liquid . .	106	5 to 15 m.	5 gr. alkaloids in 110 m. (5 grm. in 100 c.c.)
— Tincture of .	344	½ to 1 fl. dr.	1 gr. alkaloids in 110 m. (1 grm. in 100 c.c.)
— — — Compound	345	½ to 1 fl. dr.	½ gr. alkaloids in 110 m. (1 grm. in 100 c.c.)
Quinine Hydrochloride	275	1 to 10 gr.	
— Tincture of	360	½ to 1 fl. dr.	2 gr. of Quin. Hydrochlor. in 110 m. (2 grm. in 100 c.c.)
— Wine . .	385	½ to 1 fl. oz.	1 gr. of Quin. Hydrochlor. in [1 fl. oz.
Quinine Hydrochloride, Acid . .	276	1 to 10 gr.	
Quinine Sulphate . .	276	1 to 10 gr.	
— — Pill of .	252	2 to 8 gr.	5 gr. in 6 gr.
— Ammoniated Tincture of .	360	½ to 1 fl. dr.	2 gr. of Quinine Sulphate in 110 m. (2 grm. in 100 c.c.)
— and Iron Citrate .	129	5 to 10 gr.	15 per cent. of anhydrous quinine
Syrup of Phosphate of Iron with Quinine and Strychnine .	327	½ to 1 fl. dr.	⅘ gr. of Quinine Sulphate in 1 fl. dr.
Cinchonæ Rubræ Cortex . .	77		
Cinnamon Bark .	79		
— Tincture of .	345	½ to 1 fl. dr.	
— Oil of . .	225	½ to 3 m.	
— Powder of, Comp.	269	10 to 40 gr.	
— Water . .	42, *443*		
Cinnamomi Cortex	79		
Citrates, Tests for .	*421*		
Citric Acid . .	10, *395*	5 to 20 gr.	
Clarified Honey .	212		
Cloves . . .	68		

NAME	PAGE	DOSE	STRENGTH
Cloves, Infusion of	156	$\frac{1}{2}$ to 1 fl. oz.	
— Oil of	225	$\frac{1}{2}$ to 3 m.	
Coal Tar, Prepared	255		
— — Solution of	195		
Coca Leaves	79		
—Liquid Extract of	108	$\frac{1}{2}$ to 1 fl. dr.	
Cocaine	80		
— Ointment	372	. . .	4 per cent. of Cocaine
Cocaine Hydrochloride	80	$\frac{1}{5}$ to $\frac{1}{2}$ gr.	
— Discs	168	. . .	$\frac{1}{50}$ gr. Hydrochloride in each
—Injection of, Hypodermic	162	By subcutaneous injection, 2 to 5 m.	10 gr. Hydrochloride in 110 m. (10 grm. in 100 c.c.)
— and Krameria, Loz. of	367	. . .	$\frac{1}{20}$ gr. Hydrochloride in each
Cocæ Folia	79		
Cocaina	80		
Cocainæ Hydrochloridum	80	$\frac{1}{5}$ to $\frac{1}{2}$ gr.	
Coccus	81		
Cochineal	81		
— Tincture of	346	5 to 15 m.	
Codeina	82	$\frac{1}{4}$ to 2 gr.	
Codeinæ Phosphas	82	$\frac{1}{4}$ to 2 gr.	
Codeine	82	$\frac{1}{4}$ to 2 gr.	
Codeine Phosphate	82	$\frac{1}{4}$ to 2 gr.	
— Syrup of	325	$\frac{1}{2}$ to 2 fl. dr.	$\frac{1}{4}$ gr. of Codeine Phosphate in 1 fl. dr. (0·457 grm. in 100 c.c.)
Cod-liver Oil	230	1 to 4 fl. dr.	
Colchici Cormus	83	2 to 5 gr.	
— Semina	84		
Colchicum Corm	83	2 to 5 gr.	
— Extract of	109	$\frac{1}{4}$ to 1 gr.	
— Wine	384	10 to 30 m.	
— Seeds	84		
— — Tincture of	346	5 to 15 m.	
Collodion	84, *395*, *413*		
— Flexible	84		
Collodion, Blistering	85		
Collodium	84		
— Flexile	84		
Collodium Vesicans	85		
Colocynth Pulp	85		
— Compound Pill of	249	4 to 8 gr.	1 gr. in 6 gr., nearly
Colocynth, Extract of, Compound	109	2 to 8 gr.	

NAME	PAGE	DOSE	STRENGTH
Colocynth and Hyoscyamus, Pill of	249	4 to 8 gr.	2 gr. of Comp. Colocynth Pill and 1 gr. of Extract of Hyoscyamus in 3 gr.
Colocynthidis Pulpa	85		
Compound Bismuth Lozenge .	366	. . .	2 gr. of Bismuth Oxycarbonate in each
Compound Calomel Pill . .	251	4 to 8 gr.	1 gr. in 4½ gr., nearly
Compound Decoction of Aloes .	93	½ to 2 fl. oz.	Nearly 4½ gr. of Extract of Barbados Aloes in 1 fl. oz.
Compound Extract of Colocynth .	109	2 to 8 gr.	
Compound Infusion of Gentian	158	½ to 1 fl. oz.	
— — — Orange Peel	155	½ to 1 fl. oz.	
Compound Lead Suppositories .	322	. . .	1 gr. of Opium and 3 gr. of Lead Acetate in each
Compound Liniment of Camphor	171		
Compound Mercury Ointment .	374		
Compound Mixture of Iron . .	215	½ to 1 fl. oz.	
— — — Senna .	217	As a draught, 1 to 2 fl. oz.	
Compound Pill of Asafetida . .	250	4 to 8 gr.	
— — — Colocynth	249	4 to 8 gr.	1 gr. in 6 gr., nearly
— — — Galbanum	250	4 to 8 gr.	
— — — Gamboge .	248	4 to 8 gr.	
— — — Mercurous Chloride . .	251	4 to 8 gr.	1 gr. in 4½ gr., nearly
— — — Soap .	253	2 to 4 gr.	1 gr. of Opium in 5 gr.
Compound Powder of Almonds .	268		
— — — Catechu .	269	10 to 40 gr.	
— — — Cinnamon	269	10 to 40 gr.	
— — — Elaterin .	270	1 to 4 gr.	2½ per cent. of Elaterin
— — — Ipecacuanha . . .	271	5 to 15 gr.	10 per cent. of Opium and 10 per cent. of Ipecacuanha
— — — Jalap .	271	20 to 60 gr.	33⅓ per cent. of Jalap
— — — Kino .	271	5 to 20 gr.	5 per cent. of Opium
— — — Liquorice	270	60 to 120 gr.	
— — — Opium .	272	2 to 10 gr.	10 per cent. of Opium
— — — Rhubarb .	272	20 to 60 gr.	
— — — Scammony	272	10 to 20 gr.	50 per cent. of Scammony Resin
— — — Tragacanth	273	20 to 60 gr.	

Name	Page	Dose	Strength
Compound Rhubarb Pill . .	253	4 to 8 gr.	
Compound Scammony Pill . .	253	4 to 8 gr.	
Compound Solution of Sarsaparilla, Conc. .	199	2 to 8 fl. dr.	
Compound Spirit of Ether . .	302	20 to 40 m. for repeated doses; for a single dose, 60 to 90 m.	
— — — Horseradish	307	1 to 2 fl. dr.	
Compound Squill Pill . . .	254	4 to 8 gr.	
Compound Tincture of Benzoin	339	½ to 1 fl. dr.	
— — — Camphor .	340	½ to 1 fl. dr.	1 fl. dr. equals ¼ gr. of Opium
— — — Cardamoms	341	½ to 1 fl. dr.	
— — — Chloroform and Morphine . .	343	5 to 15 m. .	¾ m. of Chloroform, ½ m. of Dil. Hydrocyanic Acid, $\frac{1}{11}$ gr. of Morphine Hydrochloride in 10 m.
— — — Cinchona	345	½ to 1 fl. dr.	
— — — Gentian .	349	½ to 1 fl. dr.	
— — — Lavender	353	½ to 1 fl. dr.	
— — — Rhubarb .	361	½ to 1 fl. dr. for repeated doses; for a single dose, 2 to 4 fl. dr.	110 m. equal 10 gr. of Rhubarb Root
— — — Senna .	362	½ to 1 fl. dr. for repeated doses; for a single dose, 2 to 4 fl. dr.	
Concentrated Phosphoric Acid	17	. . .	66·3 per cent. of hydrogen orthophosphate
Concentrated Solution of Calumba	183	½ to 1 fl. dr.	
— — — Chiretta .	184	½ to 1 fl. dr.	
— — — Cusparia .	184	½ to 1 fl. dr.	
— — — Krameria	192	½ to 1 fl. dr.	
— — — Quassia .	198	½ to 1 fl. dr.	
— — — Rhubarb .	198	½ to 1 fl. dr.	
— — — Sarsaparilla, Compound	199	2 to 8 fl. dr.	
— — — Senega .	199	½ to 1 fl. dr.	
— — — Senna .	200	½ to 1 fl. dr.	

Name	Page	Dose	Strength
Concentrated Solution of Serpentary . . .	201	½ to 2 fl. dr.	
Confectio Piperis .	85	60 to 120 gr.	
— Rosæ Gallicæ .	86		
— Sennæ . .	86	60 to 120 gr.	
— Sulphuris . .	87	60 to 120 gr.	44¼ to 46¼ per cent.
Confection of Pepper . . .	85	60 to 120 gr.	
— — Roses . .	86		
— — Senna . .	86	60 to 120 gr.	
— — Sulphur .	87	60 to 120 gr.	44¼ to 46¼ per cent.
Conii Folia . .	87		
— Fructus . .	87		
Conium Fruit .	87		
— — Tincture of .	346	½ to 1 fl. dr.	
Conium Leaves .	87		
— Juice of . .	315	1 to 2 fl. dr.	
— Ointment . .	372		
Copaiba . .	88	½ to 1 fl. dr.	
— Oil of . .	226	5 to 20 m.	
Copaiva . .	88	½ to 1 fl. dr.	
Copper . . .	*395*		
— Acetate, Solution of . .	*407*		
— Ammonio - Sulphate, Solution of . . .	*407*		
— Oxyacetate .	*395*		
— Sulphate . .	91, *396*	¼ to 2 gr. as an astringent; as an emetic, 5 to 10 gr.	
— Tests for . .	*421*		
Coriander Fruit .	89		
— Oil of . .	226	½ to 3 m.	
Coriandri Fructus .	89		
Corrosive Sublimate	150	$\frac{1}{32}$ to $\frac{1}{16}$ gr.	
Cotton . . .	143		
Cotton Wool . .	143		
Cream of Tartar, Purified . .	266	20 to 60 gr.	
Creosote . .	89	1 to 5 m.	
— Mixture . .	215	½ to 1 fl. oz.	
— Ointment . .	372	. . .	10 per cent.
Creosotum . .	89	1 to 5 m.	
Creta Præparata .	90	10 to 60 gr.	
Crocus . . .	90		
Croton Oil . .	226	½ to 1 m.	
— — Liniment of .	172		

NAME	PAGE	DOSE	STRENGTH
Crude Chrysarobin	44		
Cubebæ Fructus	91	30 to 60 gr.	
Cubebs	91	30 to 60 gr.	
— Oil of	227	5 to 20 m.	
— Tincture of	347	½ to 1 fl. dr.	
Cupri Sulphas	91	¼ to 2 gr. as an astringent; as an emetic, 5 to 10 gr.	
Cupric Sulphate			
Curaçao Aloes	28	2 to 5 gr.	
Curcuma	*402*		
Curd Soap	283		
Cusparia Bark	92		
— Concentrated Solution of	184	½ to 1 fl. dr.	
— Infusion of	157	1 to 2 fl. oz.	
Cuspariæ Cortex	92		
Cusso	92	¼ to ½ oz.	
Cyanides, Tests for	*422*		
DANDELION. See Taraxacum			
Decoction of Aloes, Compound	93	½ to 2 fl. oz.	Nearly 4½ gr. of Extract of Barbados Aloes in 1 fl. oz.
— — Logwood	94	½ to 2 fl. oz.	
— — Pomegranate Bark	94	½ to 2 fl. oz.	
Decoctum Aloes Compositum	93	½ to 2 fl. oz.	Nearly 4½ gr. of Extract of Barbados Aloes in 1 fl. oz.
— Granati Corticis	94	½ to 2 fl. oz.	
— Hæmatoxyli	94	½ to 2 fl. oz.	
Digitalis Folia	94	½ to 2 gr.	
Digitalis Leaves	94	½ to 2 gr.	
— Infusion of	157	2 to 4 fl. dr.	
— Tincture of	347	5 to 15 m.	
Dill Fruit	35		
— Oil of	223	½ to 3 m.	
— Water	40, *443*		
Diluted Acetic Acid	4	½ to 2 fl. dr.	4·27 per cent. of hydrogen acetate
— Alcohol	311		
— Hydrobromic Acid	11	15 to 60 m.	10 per cent. of hydrogen bromide
— Hydrochloric Acid	12, *396*	5 to 20 m.	10·58 per cent. of hydrogen chloride
— Hydrocyanic Acid	13	2 to 6 m.	2 per cent. of hydrogen cyanide
— Mercuric Nitrate Ointment	376		

NAME	PAGE	DOSE	STRENGTH
Diluted Nitric Acid	15, *398*	5 to 20 m.	17·44 per cent. of hydrogen nitrate
— Nitro-hydrochloric Acid	15	5 to 20 m.	
— Ointment of Nitrate of Mercury	376		
— Phosphoric Acid	17	5 to 20 m.	13·8 per cent. of hydrogen orthophosphate
— Solution of Lead Subacetate .	196		1 fl. oz. of Strong Sol. of Lead Subacetate in 80 fl. oz.
— Sulphuric Acid .	20, *402*	5 to 20 m.	13·65 per cent. of hydrogen sulphate
Discs of Atropine .	168	. . .	$\frac{1}{5000}$ gr. of Atropine Sulphate in each
— — Cocaine .	168	. . .	$\frac{1}{50}$ gr. of Cocaine Hydrochloride in each
— — Homatropine	168	. . .	$\frac{1}{100}$ gr. of Homatropine Hydrobromide in each
— — Physostigmine	168	. . .	$\frac{1}{1000}$ gr. of Physostigmine Sulphate in each
Distilled Water .	42, *403*		
Dover's Powder .	271	5 to 15 gr.	10 per cent. of Opium
Dried Alum . .	30		
— Bitter Orange Peel . .	50		
— Ferrous Sulphate	132	$\frac{1}{2}$ to 3 gr.	
— Lemon Peel .	*444*		
— Sodium Carbonate . . .	294	3 to 10 gr.	
Dry Extract of Euonymus . .	111	1 to 2 gr.	
— Thyroid . .	336	3 to 10 gr.	
EAST Indian Senna	288		
Effervescent Caffeine Citrate .	59	60 to 120 gr.	
— Epsom Salt .	212	60 to 240 gr. for repeated doses; for a single dose, $\frac{1}{2}$ to 1 oz.	
— Lithium Citrate	206	60 to 120 gr.	
— Magnesium Sulphate . .	212	60 to 240 gr. for repeated doses; for a single dose, $\frac{1}{2}$ to 1 oz.	
— Sodium Citro-tartrate . .	295	60 to 120 gr.	

Name	Page	Dose	Strength
Effervescent Sodium Phosphate	298	60 to 120 gr. for repeated doses; for a single dose, $\frac{1}{4}$ to $\frac{1}{2}$ oz.	
— Sodium Sulphate	300	60 to 120 gr. for repeated doses; for a single dose, $\frac{1}{4}$ to $\frac{1}{2}$ oz.	
— Tartarated Soda Powder	273		
Elaterinum	95	$\frac{1}{40}$ to $\frac{1}{10}$ gr.	
Elaterium	95	$\frac{1}{10}$ to $\frac{1}{2}$ gr.	
Elaterin	95	$\frac{1}{40}$ to $\frac{1}{10}$ gr.	
— Compound Powder of	270	1 to 4 gr.	2$\frac{1}{2}$ per cent. of Elaterin
Elder Flowers	282		
— Flower Water	44		
Elements, Atomic Weights of	*435*		
— Symbols of	*435*		
Elixir of Vitriol	20	5 to 20 m.	
Emplastrum Ammoniaci cum Hydrargyro	96		
— Belladonnæ	96		
— Calefaciens	97		
— Cantharidis	97	. . .	35 per cent.
— Hydrargyri	97		
— Menthol	98		
— Opii	98		
— Picis	98		
— Plumbi	99		
— — Iodidi	99		
— Resinæ	99		
— Saponis	100		
Epsom Salt	211	30 to 120 gr. for repeated doses; for a single dose, $\frac{1}{4}$ to $\frac{1}{2}$ oz.	
Ergot	100	20 to 60 gr.	
— Ammoniated Tincture of	348	$\frac{1}{2}$ to 1 fl. dr.	25 gr. of Ergot in 110 m. (25 grm. in 100 c.c.)
— Extract of	110	2 to 8 gr.	
— Hypodermic Injection of	162	3 to 10 m. by subcutaneous injection	33$\frac{1}{3}$ gr. of Extract of Ergot in 110 m. (33·3 grm. in 100 c.c.)

NAME	PAGE	DOSE	STRENGTH
Ergot, Infusion of .	158	1 to 2 fl. oz.	
— Liquid Extract of	110	10 to 30 m.	
Ergota . . .	100	20 to 60 gr.	
Ergotin. See Ergot, Extract of . .	110		
Eserine Sulphate .	245	$\frac{1}{60}$ to $\frac{1}{20}$ gr.	
Ether . . .	25, *396*	10 to 30 m. for repeated doses; for a single dose, 40 to 60 m.	
Ether, Purified .	26		
— Spirit of . .	302	20 to 40 m. for repeated doses; for a single dose, 60 to 90 m.	1 volume of Ether and 2 volumes of Alcohol (90 per cent.) in 3 volumes
— — — Compound	302	20 to 40 m. for repeated doses; for a single dose, 60 to 90 m.	
Ether, Acetic .	26	20 to 40 m. for repeated doses; for a single dose, 60 to 90 m.	
Ether, Nitrous, Spirit of . .	303	20 to 40 m. for repeated doses; for a single dose, 60 to 90 m.	2 to 2½ per cent. of ethyl nitrite; minimum 1¾ per cent.
Ether, Petroleum .	*399*		
Ethereal Tincture of Lobelia . .	354	5 to 15 m.	
Ethyl Hydroxide .	27		
Ethyl Nitrite, Solution of . .	185	20 to 60 m.	2½ to 3 per cent. of eth nitrite
Eucalypti Gummi .	100	2 to 5 gr.	
Eucalypti Oleum .	227	½ to 3 m.	
Eucalyptus Gum .	100	2 to 5 gr.	
— — Lozenge .	366	. . .	1 gr. in each
Eucalyptus Oil .	227	½ to 3 m.	
— Ointment . .	373		
Euonymi Cortex .	101		
Euonymus Bark .	101		
— Dry Extract of .	111	1 to 2 gr.	
Exsiccated Alum .	30		
— Ferrous Sulphate	132	½ to 3 gr.	
— Sodium Carbonate . . .	294	3 to 10 gr.	

NAME	PAGE	DOSE	STRENGTH
Extract of Actæa Racemosa, Liquid	106	5 to 30 m.	
— — Barbados Aloes	101	2 to 4 gr.	
— — Belladonna, Alcoholic .	102	¼ to 1 gr.	1 per cent. of alkaloids
— — — Green .	104	¼ to 1 gr.	
— — — Liquid .	103	. . .	¾ gr. of alkaloids in 110 m. (0·75 grm. in 100 c.c.)
— — Calabar Bean	121	¼ to 1 gr	
— — Cascara Sagrada	105	2 to 8 gr.	
— — — — Liquid	105	½ to 1 fl. dr.	
— — Chamomile .	102	2 to 8 gr.	
— — Cimicifuga, Liquid	106	5 to 30 m.	
— — Cinchona, Liq.	106	5 to 15 m.	5 gr. of alkaloids in 110 m. (5 grm. in 100 c.c.)
— — Coca, Liquid	108	½ to 1 fl. dr.	
— — Colchicum .	109	¼ to 1 gr.	
— — Colocynth, Compound	109	2 to 8 gr.	
— — Ergot . .	110	2 to 8 gr.	
— — — Liquid .	110	10 to 30 m.	
— — Euonymus, Dry	111	1 to 2 gr.	
— — Gentian .	112	2 to 8 gr.	
— — Hamamelis, Liquid .	113	5 to 15 m.	
— — Hydrastis, Liq.	113	5 to 15 m.	
— — Hyoscyamus, Green .	114	2 to 8 gr.	
— — Indian Hemp	105	¼ to 1 gr.	
— — Ipecacuanha, Liquid .	114	Expectorant, ½ to 2 m.; emetic, 15 to 20 m.	2 to 2¼ gr. of alkaloids in 110 m. (2 to 2·25 grm. in 100 c.c.)
— — Jaborandi, Liquid	116	5 to 15 m.	
— — Jalap . .	116	2 to 8 gr.	
— — Krameria .	117	5 to 15 gr.	
— — Liquorice .	112		
— — — Liquid .	112	½ to 1 fl. dr.	
— — Male Fern, Liq.	111	45 to 90 m.	
— — Nux Vomica	117	¼ to 1 gr.	5 per cent. of Strychnine
— — — — Liquid	118	1 to 3 m.	1½ gr. of Strychnine in 110 m. (1·5 grm. in 100 c.c.)
— — Opium . .	119	¼ to 1 gr.	20 per cent. of morphine
— — — Liquid .	120	5 to 30 m.	¾ gr. of morphine in 110 m. (0·75 grm. in 100 c.c.)
— — Pareira, Liq.	121	½ to 2 fl. dr.	

Name	Page	Dose	Strength
Extract of Rhubarb	122	2 to 8 gr.	
— — Sarsaparilla, Liquid . .	122	2 to 4 fl. dr.	
— — Stramonium	123	¼ to 1 gr.	
— — Strophanthus	123	¼ to 1 gr.	
— — Taraxacum .	124	5 to 15 gr.	
— — — Liquid .	124	½ to 2 fl. dr.	
Extracta Liquida .	*444*		
Extractum Aloes Barbadensis .	101	2 to 4 gr.	
— Anthemidis .	102	2 to 8 gr.	
— Belladonnæ Alcoholicum . .	102	¼ to 1 gr.	1 per cent. of alkaloids
— — Liquidum .	103	. . .	¾ gr. of alkaloids in 110 m. (0·75 grm. in 100 c.c.)
— — Viride . .	104	¼ to 1 gr.	
— Cannabis Indicæ	105	¼ to 1 gr.	
— Cascaræ Sagradæ . .	105	2 to 8 gr.	
— — — Liquidum	105	½ to 1 fl. dr.	
— Cimicifugæ Liq.	106	5 to 30 m.	
— Cinchonæ Liquidum . .	106	5 to 15 m.	5 gr. alkaloids in 110 m. (5 grm. in 100 c.c.)
— Cocæ Liquidum	108	½ to 1 fl. dr.	
— Colchici . .	109	¼ to 1 gr.	
— Colocynthidis Compositum	109	2 to 8 gr.	
— Ergotæ . .	110	2 to 8 gr.	
— — Liquidum .	110	10 to 30 m.	
— Euonymi Siccum	111	1 to 2 gr.	
— Filicis Liquidum	111	45 to 90 m.	
— Gentianæ . .	112	2 to 8 gr.	
— Glycyrrhizæ .	112		
— — Liquidum .	112	½ to 1 fl. dr.	
— Hamamelidis Liq.	113	5 to 15 m.	
— Hydrastis Liq. .	113	5 to 15 m.	
— Hyoscyami Viride . . .	114	2 to 8 gr.	
— Ipecacuanhæ Liquidum	114	Expectorant, ½ to 2 m.; emetic, 15 to 20 m.	2 to 2¼ gr. of alkaloids in 110 m. (2 to 2·25 grm. in 100 c.c.)
— Jaborandi Liq. .	116	5 to 15 m.	
— Jalapæ . .	116	2 to 8 gr.	
— Krameriæ .	117	5 to 15 gr.	
— Nucis Vomicæ .	117	¼ to 1 gr.	5 per cent. of Strychnine
— — — Liquidum	118	1 to 3 m.	1½ gr. of Strychnine in 110 m. (1·5 grm. in 100 c.c.)
— Opii . . .	119	¼ to 1 gr.	20 per cent. of morphine
— — Liquidum .	120	5 to 30 m.	¾ gr. of morphine in 110 m. (0·75 grm. in 100 c.c.)

NAME	PAGE	DOSE	STRENGTH
Extractum Pareiræ Liquidum	121	$\frac{1}{2}$ to 2 fl. dr.	
— Physostigmatis	121	$\frac{1}{4}$ to 1 gr.	
— Rhamni Purshiani	105	2 to 8 gr.	
— Rhei	122	2 to 8 gr.	
— Sarsæ Liquidum	122	2 to 4 fl. dr.	
— Stramonii	123	$\frac{1}{4}$ to 1 gr.	
— Strophanthi	123	$\frac{1}{4}$ to 1 gr.	
— Taraxaci	124	5 to 15 gr.	
— — Liquidum	124	$\frac{1}{2}$ to 2 fl. dr.	
FEHLING'S Solution	*411*		
Fel Bovinum Purificatum	125	5 to 15 gr.	
Fennel Fruit	135		
— Water	42, *443*		
Fern, Male	134		
Ferri Arsenas	125	$\frac{1}{16}$ to $\frac{1}{4}$ gr.	
— Carbonas Saccharatus	126	10 to 30 gr.	
— et Ammonii Citras	127	5 to 10 gr.	
— et Quininæ Citras	129	5 to 10 gr.	15 per cent. of anhydrous [quinine
— Phosphas	130	5 to 10 gr.	
— Sulphas	131	1 to 5 gr.	
— — Exsiccatus	132	$\frac{1}{2}$ to 3 gr.	
Ferric Acetate, Solution of	186	5 to 15 m.	
Ferric Chloride	*396*		
— — Solution of	187	5 to 15 m.	1 volume of the Strong Solution in 4 volumes
— — Strong Solution of	187		
— — Test Sol. of	*415*		
— — Tincture of	348	5 to 15 m.	25 per cent. of Strong Solution of Ferric Chloride
— Nitrate, Sol. of	188	5 to 15 m.	
— Sulphate, Solution of	189, *408*		
Ferricyanide of Potassium	*399*		
— — — Sol. of	*412*		
Ferrocyanide of Potassium	*400*		
— — — Solution of	*412*		
Ferrous Sulphate	131, *396*	1 to 5 gr.	
— — Exsiccated	132	$\frac{1}{2}$ to 3 gr.	
— — Solution of	*408*		
Ferrum	132		

Name	Page	Dose	Strength
Ferrum Redactum .	132	1 to 5 gr.	
Ferrum Tartaratum	133	5 to 10 gr.	
Fetid Spirit of Ammonia . .	306	20 to 40 m. for repeated doses; for a single dose, 60 to 90 m.	2·88 gr. of ammonia (gas) in 110 m. (2·88 grm. in 100 c.c.)
Ficus . . .	134		
Figs . . .	134		
Filix Mas . .	134		
Flexible Collodion .	84		
Flowers of Sulphur	318	20 to 60 gr.	
Fluid Magnesia .	192	1 to 2 fl. oz.	
Fœniculi Fructus .	135		
Fowler's Solution .	178	2 to 8 m.	1 gr. of Arsenic in 110 m. (1 grm. in 100 c.c.)
Foxglove. See Digitalis			
Frankincense .	335		
Fresh Bitter-Orange Peel	49		
Friars' Balsam .	339	½ to 1 fl. dr.	
Fruit Basis for Lozenges . .	*441*		
Fruit, Anise . .	36		
— Capsicum . .	66		
— Caraway . .	68		
— Conium . .	87		
— Coriander . .	89		
— Dill . . .	35		
— Fennel . .	135		
GALBANUM . .	135	5 to 15 gr.	
— Compound Pill of . . .	250	4 to 8 gr.	1 gr. each of Galbanum, Asafetida, and Myrrh in 3½ gr.
Galla . . .	136		
Gallic Acid . .	11	5 to 15 gr.	
Galls . . .	136		
Gall Ointment	373		
— and Opium, Ointment .	373	. . .	7½ per cent. of Opium
Tannic Acid	21	2 to 5 gr.	
Gamboge . .	64	½ to 2 gr.	
— Compound Pill of . . .	248	4 to 8 gr.	1 gr. of Gamboge and 1 gr. of Barbados Aloes in 6 gr.
Gaseous Hydrochloric Acid .	*396*		
Gelatin . .	136		
Gelatinum . .	136		
Gelsemii Radix .	137		

Name	Page	Dose	Strength
Gelsemium Root	137		
— Tincture of	348	5 to 15 m.	
Gentian Root	137		
— Compound Infusion of	158	½ to 1 fl. oz.	
— — Tincture	349	½ to 1 fl. dr.	
— Extract of	112	2 to 8 gr.	
Gentianæ Radix	137		
Ginger	389		
— Syrup of	333	½ to 1 fl. dr.	
— Tincture of	364	½ to 1 fl. dr.	
Glacial Acetic Acid	5, *393*	. . .	99 per cent. of hydrogen acetate
Acetic Acid and Turpentine, Liniment of	174		
Glucose, Syrup of	327		
Glucusimide	138		
Gluside	138		
Glusidum	138		
Glycerin	139, *396*	1 to 2 fl. dr.	
— Suppositories	321	. . .	70 per cent. of Glycerin
Glycerin of Alum	141		
— — Borax	141		
— — Boric Acid	140		
— — Lead Subacetate	142		
— — Pepsin	142	1 to 2 fl. dr.	
— — Phenol	140	. . .	1 oz. in 5 fl. oz. (20 grm. in 100 c.c.)
— — Starch	141		
— — Tannic Acid	140		
— — Tragacanth	143		
Glycerinum	139	1 to 2 fl. dr.	
— Acidi Borici	140		
— — Carbolici	140		
— — Tannici	140		
— Aluminis	141		
— Amyli	141		
— Boracis	141		
— Pepsini	142	1 to 2 fl. dr.	
— Plumbi Subacetatis	142		
— Tragacanthæ	143		
Glycyrrhizæ Radix	143		
Goa Powder	44		
Gossypium	143		
Goulard Water	196		
Goulard's Extract	196		
— Lotion	196		
Granati Cortex	144		

Name	Page	Dose	Strength
Green Extract of Belladonna	104	¼ to 1 gr.	
Green Extract of Hyoscyamus	114	2 to 8 gr.	
Gregory's Powder	272	20 to 60 gr.	22 per cent. of Rhubarb Root, 66½ per cent. of Light Magnesia, nearly
Grey Powder	152	1 to 5 gr.	33⅓ per cent. of Mercury
Guaiaci Lignum	144		
— Resina	145	5 to 15 gr	
Guaiacum Resin	145	5 to 15 gr.	
— Lozenge	366		3 gr. in each
— Mixture	216	½ to 1 fl. oz.	
— Tincture of, Ammoniated	349	½ to 1 fl. dr.	
Guaiacum Wood	144		
Concentrated Comp. Sol. of Sarsaparilla	199	2 to 8 fl. dr.	
Gum Acacia	1		
— — Mucilage of	220		
HÆMATOXYLI Lignum	145		
Hamamelidis Cortex	145		
Hamamelidis Folia	146		
Hamamelis Bark	145		
— Tincture of	350	½ to 1 fl. dr.	
Hamamelis Leaves	146		
— Liquid Extract of	113	5 to 15 m.	
— Ointment	374		
— Solution of	190		
Hard Paraffin	239		
Hard Soap	283		
Soap Plaster	100		
— Compound Pill of	253	2 to 4 gr.	20 per cent. of Opium; 60 per cent. of Hard Soap
Heavy Calcined Magnesia. See Heavy Magnesia	209		
Heavy Magnesia	209	5 to 30 gr. for repeated doses; for a single dose 30 to 60 gr.	
Comp. Powder of Rhubarb	272	20 to 60 gr.	

NAME	PAGE	DOSE	STRENGTH
Heavy Magnesium Carbonate	210	5 to 30 gr. for repeated doses; for a single dose, 30 to 60 gr.	
— — Oxide. See Heavy Magnesia	209		
Helianthin	397		
Hemidesmi Radix	146		
Hemidesmus Root	146		
— Syrup of	328	$\frac{1}{2}$ to 1 fl. dr.	
Hemlock. See Conium			
Hemp, Indian	65		
— — Extract of	105	$\frac{1}{4}$ to 1 gr.	
— — Tincture of	340	5 to 15 m.	5 gr. of Extract in 110 m. (5 grm. in 100 c.c.)
Henbane. See Hyoscyamus	153		
Hepatic Aloes. See Socotrine Aloes	28		
Hirudo	147		
Hoffmann's Anodyne	302	20 to 40 m. for repeated doses; for a single dose, 60 to 90 m.	
Homatropinæ Hydrobromidum	147	$\frac{1}{80}$ to $\frac{1}{20}$ gr.	
Homatropine Hydrobromide	147	$\frac{1}{80}$ to $\frac{1}{20}$ gr.	
— Discs	168		$\frac{1}{100}$ gr. in each
Honey, Borax	212		
Honey, Clarified	212		
Hops	208		
— Infusion of	159	1 to 2 fl. oz.	
— Tincture of	354	$\frac{1}{2}$ to 1 fl. dr.	
Horseradish Root	46		
— Comp. Spirit of	307	1 to 2 fl. dr.	
Humulus	208		
Hydrargyri Iodidum Rubrum	148	$\frac{1}{32}$ to $\frac{1}{16}$ gr.	
— Oleas	148		
— Oxidum Flavum	149		
— — Rubrum	149		
— Perchloridum	150	$\frac{1}{32}$ to $\frac{1}{16}$ gr.	
— Subchloridum	150	$\frac{1}{2}$ to 5 gr.	
Hydrargyrum	151		
— Ammoniatum	151		
— cum Creta	152	1 to 5 gr.	$33\frac{1}{3}$ per cent. of Mercury
Hydrastis Rhizoma	152		

NAME	PAGE	DOSE	STRENGTH
Hydrastis Rhizome	152		
— — Liquid Extract of	113	5 to 15 m.	
— — Tincture of .	350	$\frac{1}{2}$ to 1 fl. dr.	
Hydrobromate of Homatropine .	147	$\frac{1}{80}$ to $\frac{1}{20}$ gr.	
Hydrobromic Acid, Diluted .	11	15 to 60 m.	10 per cent. of hydrogen bromide
Hydrobromides, Tests for	*419*		
Hydrochlorate of Apomorphine .	39	$\frac{1}{20}$ to $\frac{1}{10}$ gr. by subcutaneous injection; by the mouth, $\frac{1}{10}$ to $\frac{1}{4}$ gr.	
— — Cocaine .	80	$\frac{1}{5}$ to $\frac{1}{2}$ gr.	
— — Morphine .	218	$\frac{1}{8}$ to $\frac{1}{2}$ gr.	
— — Quinine .	275	1 to 10 gr.	
— — Strychnine .	314	$\frac{1}{60}$ to $\frac{1}{15}$ gr.	
Hydrochloric Acid .	12, *396*	. . .	31·79 per cent. of hydrogen chloride
— — Diluted .	12, *396*	5 to 20 m.	10·58 per cent. of hydrogen chloride
— — Gaseous .	*396*		
— Solution of Arsenic . .	178	2 to 8 m.	1 gr. in 110 m. (1 grm. in 100 c.c.)
Hydrochlorides, Tests for	*420*		
Hydrocyanic Acid, Diluted .	13	2 to 6 m.	2 per cent. of hydrogen cyanide
Hydrogen Acetate .	4, 5		
— Borate . .	7	5 to 15 gr.	
— Bromide . .	11		
— Chloride . .	12		
— Citrate . .	10	5 to 20 gr.	
— Cyanide . .	13		
— Lactate . .	13		
— Nitrate . .	14		
— Oleate . .	16		
— Orthophosphate	17		
— Peroxide, Sol. of	191, *408*	$\frac{1}{2}$ to 2 fl. dr.	
— Sulphate . .	19		
— Sulphide . .	*396*		
— Sulphite . .	21		
— Tartrate . .	22	5 to 20 gr.	
Hydrous Wool Fat	25		
Hydroxide, Barium	*394*		
— Calcium . .	60, *395*		
— Potassium . .	258, *400*		
— Sodium . .	*401*		

Name	Page	Dose	Strength
Hyoscinæ Hydrobromidum	153	$\frac{1}{200}$ to $\frac{1}{100}$ gr.	
Hyoscine Hydrobromide	153	$\frac{1}{200}$ to $\frac{1}{100}$ gr.	
Hyoscyami Folia	153		
Hyoscyaminæ Sulphas	154	$\frac{1}{200}$ to $\frac{1}{100}$ gr.	
Hyoscyamine Sulphate	154	$\frac{1}{200}$ to $\frac{1}{100}$ gr.	
Hyoscyamus Leaves	153		
— Green Extract of	114	2 to 8 gr.	
— Juice of	316	½ to 1 fl. dr.	
— Tincture of	350	½ to 1 fl. dr.	
Hyoscine Hydrobromide	153	$\frac{1}{200}$ to $\frac{1}{100}$ gr.	
Hyoscyamine Sulphate	154	$\frac{1}{200}$ to $\frac{1}{100}$ gr.	
Hypodermic Injection of Apomorphine	161	5 to 10 m. By subcutaneous injection	1 gr. of Apomorphine Hydrochloride in 110 m. (1 grm. in 100 c.c.)
— — — Cocaine	162	2 to 5 m.	10 gr. of Cocaine Hydrochloride in 110 m. (10 grm. in 100 c.c.)
— — — Ergot — — — Ergotin	162	3 to 10 m.	33⅓ gr. of Extract in 110 m. (33·3 grm. in 100 c.c.)
— — — Morphine	163	2 to 5 m.	5 gr. of Morphine Tartrate in 110 m. (5 grm. in 100 c.c.)
Hypophosphite, Calcium	61	3 to 10 gr.	
— Sodium	295	3 to 10 gr.	
Hyposulphite, Sodium	*402*		
Imperial System, Weights and Measures of	*437*		
India-rubber	66		
— — Solution of	183		
Indian Hemp	65		
— — Extract of	105	¼ to 1 gr.	
— — Tincture of	340	5 to 15 m.	5 gr. of Extract in 110 m. (5 grm. in 100 c.c.)
Indicators of Termination of Reactions in Volumetric Analysis	*434, 435*		

Name	Page	Dose	Strength
Indigo . . .	396		
— Sulphate, Solution of . .	408		
Indurated Lard .	443		
Infusion of Bearberry . .	161	½ to 1 fl. oz.	
— — Broom .	160	1 to 2 fl. oz.	
— — Buchu . .	155	1 to 2 fl. oz.	
— — Calumba .	156	½ to 1 fl. oz.	
— — Cascarilla .	156	½ to 1 fl. oz.	
— — Chiretta .	156	½ to 1 fl. oz.	
— — Cinchona, Acid	157	½ to 1 fl. oz.	
— — Cloves . .	156	½ to 1 fl. oz.	
— — Cusparia .	157	1 to 2 fl. oz.	
— — Digitalis .	157	2 to 4 fl. dr.	
— — Ergot . .	158	1 to 2 fl. oz.	
— — Gentian, Compound	158	½ to 1 fl. oz.	
— — Hops . .	159	1 to 2 fl. oz.	
— — Krameria .	158	½ to 1 fl. oz.	
— — Orange Peel .	155	½ to 1 fl. oz.	
— — — — Compound . .	155	½ to 1 fl. oz.	
— — Quassia .	159	½ to 1 fl. oz.	
— — Rhubarb .	159	½ to 1 fl. oz.	
— — Roses, Acid .	159	½ to 1 fl. oz.	
— — Senega .	160	½ to 1 fl. oz.	
— — Senna . .	160	½ to 1 fl. oz.; as a draught, 2 fl. oz.	
— — Serpentary .	161	½ to 1 fl. oz.	
Infusum Aurantii .	155	½ to 1 fl. oz.	
— — Compositum	155	½ to 1 fl. oz.	
— Buchu . .	155	1 to 2 fl. oz.	
— Calumbæ . .	156	½ to 1 fl. oz.	
— Caryophylli .	156	½ to 1 fl. oz.	
— Cascarillæ .	156	½ to 1 fl. oz.	
— Chiratæ . .	156	½ to 1 fl. oz.	
— Cinchonæ Acidum . . .	157	½ to 1 fl. oz.	
— Cuspariæ . .	157	1 to 2 fl. oz.	
— Digitalis . .	157	2 to 4 fl. dr.	
— Ergotæ . .	158	1 to 2 fl. oz.	
— Gentianæ Compositum . .	158	½ to 1 fl. oz.	
— Krameriæ . .	158	½ to 1 fl. oz.	
— Lupuli . .	159	1 to 2 fl. oz.	
— Quassiæ . .	159	½ to 1 fl. oz.	
— Rhei . . .	159	½ to 1 fl. oz.	
— Rosæ Acidum .	159	½ to 1 fl. oz.	

Name	Page	Dose	Strength
Infusum Scoparii	160	1 to 2 fl. oz.	
— Senegæ	160	½ to 1 fl. oz.	
— Sennæ	160	½ to 1 fl. oz.; as a draught, 2 fl. oz.	
— Serpentariæ	161	½ to 1 fl. oz.	
— Uvæ Ursi	161	½ to 1 fl. oz.	
Injectio Apomorphinæ Hypodermica	161	5 to 10 m. By subcutaneous injection	1 gr. of Apomorphine Hydrochloride in 110 m. (1 grm. in 100 c.c.)
— Cocainæ Hypodermica	162	2 to 5 m.	10 gr. of Cocaine Hydrochloride in 110 m. (10 grm. in 100 c.c.)
— Ergotæ Hypodermica	162	3 to 10 m.	33⅓ gr. of Extract of Ergot in 110 m. (33·3 grm. in 100 c.c.)
— Morphinæ Hypodermica	163	2 to 5 m.	5 gr. of Morphine Tartrate in 110 m. (5 grm. in 100 c.c.)
Injection of Apomorphine, Hypodermic	161	5 to 10 m.	1 gr. of Apomorphine Hydrochloride in 110 m. (1 grm. in 100 c.c.)
— — Cocaine, Hypodermic	162	2 to 5 m.	10 gr. of Cocaine Hydrochloride in 110 m. (10 grm. in 100 c.c.)
— — Ergot, Hypodermic	162	3 to 10 m.	33⅓ gr. of Extract of Ergot in 110 m. (33·3 grm. in 100 c.c.)
— — Ergotin, Hyodermic			
— — Morphine, Hypodermic	163	2 to 5 m.	5 gr. of Morphine Tartrate in 110 m. (5 grm. in 100 c.c.)
Iodates, Tests for	422		
Iodides, Tests for	423		
Iodine	164		
Iodine Ointment	377	. . .	4 per cent. of Potassium Iodide and 4 per cent. of Iodine
— Strong Solution of	192	. . .	11⅔ per cent. of Iodine; 7 per cent. of Potassium Iodide
— Tincture of	351	2 to 5 m.	2½ gr. of Potassium Iodide and 2½ gr. of added Iodine in 110 m. (2·5 grm. of each in 100 c.c.)
Iodine, Solution of	408	. . .	12·59 grm. in 1000 c.c.
Iodine, Volumetric Solution of	430	. . .	12·59 grm. in 1000 c.c.
Iodoform	163	½ to 3 gr.	
— Ointment	377	. . .	10 per cent.
— Suppositories	321	. . .	3 gr. in each
Iodoformum	163	½ to 3 gr.	
Iodum	164		

Name	Page	Dose	Strength
Ipecacuanha Root	164	Expectorant, $\frac{1}{4}$ to 2 gr.; emetic, 15 to 30 gr.	
— Comp. Powder of	271	5 to 15 gr.	10 per cent. of Opium
Ipecacuanha, Liquid Extract of	114	Expectorant, $\frac{1}{2}$ to 2 m.; emetic, 15 to 20 m.	2 to $2\frac{1}{4}$ gr. of alkaloids in 110 m. (2 to 2·25 grm. in 100 c.c.)
— Lozenge	367	. . .	$\frac{1}{4}$ gr. in each
— — with Morphine	367	. . .	$\frac{1}{36}$ gr. of Morph. Hydrochlor. and $\frac{1}{12}$ gr. of Ipecac. in each
— Pill of, with Squill	251	4 to 8 gr.	5 per cent. of Opium and 5 per cent. of Ipecac. nearly
— Vinegar of	3	10 to 30 m.	$\frac{1}{10}$ gr. to $\frac{1}{9}$ gr. of alkaloids in 110 m. (0·1 to 0·1125 grm. in 100 c.c.)
— Wine	385	Expectorant, 10 to 30 m.; emetic, 4 to 6 fl. dr.	5 m. of Liquid Extract in 110 m. (5 c.c. in 100 c.c.)
Ipecacuanhæ Radix	164	Expectorant, $\frac{1}{4}$ to 2 gr.; emetic, 15 to 30 gr.	
Iron	132, *396*		
Iron and Ammonium Citrate	127	5 to 10 gr.	
— Citrate, Wine of	385	1 to 4 fl. dr.	
— and Quinine Citrate	129	5 to 10 gr.	15 per cent. of anhydrous quinine
Iron Acetate, Sol. of	186	5 to 15 m.	
Iron Arsenate	125	$\frac{1}{16}$ to $\frac{1}{4}$ gr.	
Iron Carbonate, Saccharated	126	10 to 30 gr.	
Iron, Compound Mixture of	215	$\frac{1}{2}$ to 1 fl. oz.	
— Iodide, Syrup of	325	$\frac{1}{2}$ to 1 fl. dr.	1 gr. of ferrous iodide in 11 m.
Iron Perchloride, Solution of	187	5 to 15 m.	$5\frac{2}{3}$ gr. of Iron in 110 m. (5·625 grm. in 100 c.c.)
— — — — Strong	187	. . .	$22\frac{1}{2}$ gr. of Iron in 110 m. (22·5 grm. in 100 c.c.)
— — Tincture of	348	5 to 15 m.	$5\frac{2}{3}$ gr. of Iron in 110 m. (5·625 grm. in 100 c.c.)
Iron Phosphate	130	5 to 10 gr.	
— — Syrup of	326	$\frac{1}{2}$ to 1 fl. dr.	1 gr. in 1 fl. dr.
— — with Quinine and Strychnine, Syrup of	327	$\frac{1}{2}$ to 1 fl. dr.	1 gr. of ferrous phosphate, $\frac{4}{5}$ gr. of Quin. Sulph., and $\frac{1}{32}$ gr. of Strychnine in 1 fl. dr.
Iron Pill	249	5 to 15 gr.	1 gr. of ferrous carb. in 5 gr.
— — with Aloes	247	4 to 8 gr.	$\frac{1}{2}$ gr. of Ex. Fer. Sulph., and 1 gr. of Barb. Aloes in $4\frac{1}{2}$

Name	Page	Dose	Strength
Iron, Reduced .	132	1 to 5 gr.	
— — Lozenge .	366	. . .	1 gr. in each
Iron Sulphate .	131	1 to 5 gr.	
— — Exsiccated .	132	½ to 3 gr.	
Iron, Tartarated .	133	5 to 10 gr.	
Iron, Tests for .	*423*		
Iron, Tincture of Perchloride of .	348	5 to 15 m.	
Iron Wine . .	384	1 to 4 fl. dr.	
Isinglass, Sol. of	*408*		
JABORANDI Folia .	165		
Jaborandi Leaves .	165		
— Liquid Extract of	116	5 to 15 m.	
— Tincture of .	351	½ to 1 fl. dr.	
Jalap . . .	165	5 to 20 gr.	
— Comp. Powder of	271	20 to 60 gr.	33⅓ per cent. of Jalap
— Extract of . .	116	2 to 8 gr.	
Jalap Resin . .	166	2 to 5 gr.	
— Tincture of .	352	½ to 1 fl. dr.	1½ gr. of Resin in 110 m. (1·5 grm. in 100 c.c.)
Jalapa . . .	165	5 to 20 gr.	
Jalapæ Resina .	166	2 to 5 gr.	
Juice of Belladonna	315	5 to 15 m.	
— — Broom . .	316	1 to 2 fl. dr.	
— — Conium .	315	1 to 2 fl. dr.	
— — Hyoscyamus	316	½ to 1 fl. dr.	
— — Lemon . .	316	. . .	30 to 40 gr. of Citric Acid in 1 fl. oz. (7 to 9 grm. in 100 c.c.)
— — Taraxacum .	316	1 to 2 fl. dr.	
Juniper, Oil of .	228	½ to 3 m.	
— Spirit of . .	308	20 to 60 m.	
KAOLIN . . .	167		
Kaolinum . .	167		
Kino . . .	167	5 to 20 gr.	
— Comp. Powder .	271	5 to 20 gr.	5 per cent. of Opium
— Tincture of .	352	½ to 1 fl. dr.	
Krameria Root .	167		
— Concent. Sol. of	192	½ to 1 fl. dr.	
— Extract of .	117	5 to 15 gr.	
— Infusion of .	158	½ to 1 fl. oz.	
— Lozenge . .	367	. . .	1 gr. of Extract in each
— — with Cocaine	367	. . .	$\frac{1}{20}$ gr. of Cocaine Hydrochloride in each
— Tincture of .	353	½ to 1 fl. dr.	
Krameriæ Radix .	167		
LACTIC Acid . .	13	. . .	75 per cent. of hydrogen lactate
Lactose . . .	280		
Lamellæ Atropinæ .	168	. . .	$\frac{1}{5000}$ gr. of Atropine Sulphate in each

NAME	PAGE	DOSE	STRENGTH
Lamellæ Cocainæ	168	. . .	$\frac{1}{50}$ gr. of Cocaine Hydrochloride in each
— Homatropinæ	168	. . .	$\frac{1}{100}$ gr. in each
— Physostigminæ	168	. . .	$\frac{1}{1000}$ gr. in each
Lard	23		
— Benzoated	24		
— Indurated	*443*		
Laurocerasi Folia	169		
Lavender, Oil of	228	$\frac{1}{2}$ to 3 m.	
— Spirit of	309	5 to 20 m.	
— Tincture of, Compound	353	$\frac{1}{2}$ to 1 fl. dr.	
Lead Acetate	256, *397*	1 to 5 gr.	
— — Ointment	378		
— — Solution of	*408*		
— and Opium Pill	252	2 to 4 gr.	$\frac{1}{2}$ gr. of Opium and 3 gr. of Lead Acetate in 4 gr.
— Suppositories, Compound	322	. . .	3 gr. of Lead Acetate and 1 gr. of Opium in each
Lead Carbonate	256		
— — Ointment	378		
Lead Iodide	256		
— — Ointment	378		
— — Plaster	99		
Lead Oxide	257		
Lead Peroxide	*397*		
— Plaster	99		
Lead Subacetate, Glycerin of	142		
— — Solution of, Diluted	196	. . .	1 fl. oz. of Strong Sol. of Lead Subacetate in 80 fl. oz.
— — — — Strong	196, *409*		
Lead, Tests for	*424*		
Leaves, Bearberry	381		
— Belladonna	52		
— Buchu	57		
— Cherry Laurel	169		
— Coca	79		
— Conium	87		
— Digitalis	94	$\frac{1}{2}$ to 2 gr.	
— Hamamelis	146		
— Hyoscyamus	153		
— Jaborandi	165		
— Stramonium	313		
Leeches	147		
Lemon Juice	316	. . .	30 to 40 gr. of Citric Acid in 1 fl. oz. (7 to 9 grm. in 100 c.c.)
Lemon Peel	169, *444*		
— Oil of	228	$\frac{1}{2}$ to 3 m.	
— Tincture of	354	$\frac{1}{2}$ to 1 fl. dr.	
— Syrup of	328	$\frac{1}{2}$ to 1 fl. dr.	

Name	Page	Dose	Strength
Light Calcined Magnesia	209	5 to 30 gr., repeated doses; single dose, 30 to 60 gr.	
— Magnesia	209		
— Magnesium Carb.	210		
— — Oxide	209		
Lime	62, *397*		
— Liniment of	171		
— Milk of	*397*		
— Solution of	181, *409*	1 to 4 fl. oz.	½ gr. of Lime in 1 fl. oz.
— Water	181	1 to 4 fl. oz.	½ gr. of Lime in 1 fl. oz.
Lime, Chlorinated	63		
— — Solution of	182		
Lime Salts. See Calcium			
Lime, Slaked	60		
— Saccharated, Solution of	182	20 to 60 m.	Equal to 1 gr. of Lime in 1 fl. dr., nearly
Lime, Sulphurated	63	¼ to 1 gr.	
Limonis Cortex	169		
— — Siccatus	*444*		
Liniment of Aconite	169		
— — Ammonia	170		
— — Belladonna	170		
— — Camphor	171		
— — — Ammoniated	171		
— — — Compound	171		
— — Chloroform	172		
— — Croton Oil	172		
— — Iodine	192		
— — Lime	171		
— — Mercury	172		
— — Mustard	174		
— — Opium	173		
— — Potassium Iodide with Soap	173		
— — Soap	173		
— — Turpentine	174		
— — — and Acetic Acid	174		
Linimentum Aconiti	169		
— Ammoniæ	170		
— Belladonnæ	170		
— Calcis	171		
— Camphoræ	171		
— — Ammoniatum	171		
— Chloroformi	172		
— Crotonis	172		
— Hydrargyri	172		
— Opii	173		

Name	Page	Dose	Strength
Linimentum Potassii Iodidi cum Sapone . .	173		
— Saponis . .	173		
— Sinapis . .	174		
— Terebinthinæ .	174		
— — Aceticum .	174		
Linseed . . .	175		
— Crushed . .	175		
— Oil . . .	229		
Linum . . .	175		
— Contusum . .	175		
Liquefied Phenol .	9	1 to 3 m.	90·9 per cent. of Phenol
Liquid, Blistering .	185		
Liquid Extract of Actæa Racemosa	106	5 to 30 m.	
— — —Belladonna	103	. . .	¾ gr. of alkaloids in 110 m. (0·75 grm. in 100 c.c.)
— — — Cascara Sagrada . .	105	½ to 1 fl. dr.	
— — — Cimicifuga	106	5 to 30 m.	
— — — Cinchona	106	5 to 15 m.	5 gr. of alkaloids in 110 m. (5 grm. in 100 c.c.)
— — — Coca .	108	½ to 1 fl. dr.	
— — — Ergot .	110	10 to 30 m.	
— — —Hamamelis	113	5 to 15 m.	
— — — Hydrastis	113	5 to 15 m.	
— — — Ipecacuanha . . .	114	Expectorant, ½ to 2 m.; emetic, 15 to 20 m.	2 to 2¼ gr. of alkaloids in 110 m. (2 to 2·25 grm. in 100 c.c.)
— — — Jaborandi	116	5 to 15 m.	
— — — Liquorice	112	½ to 1 fl. dr.	
— — — Male Fern	111	45 to 90 m.	
— — — Nux Vomica . . .	118	1 to 3 m.	1½ gr. of Strychnine in 110 m. (1·5 grm. in 100 c.c.)
— — — Opium .	120	5 to 30 m.	¾ gr. of morphine in 110 m. (0·75 grm. in 100 c.c.)
— — — Pareira .	121	½ to 2 fl. dr.	
— — — Sarsaparilla . . .	122	2 to 4 fl. dr.	
— — —Taraxacum	124	½ to 2 fl. dr.	
Liquid Glucose .	327		
Liquid Paraffin .	239		
Liquor Acidi Chromici . . .	175		
— Ammoniæ . .	176	. . .	10 per cent. of ammonia (gas)
— — Fortis . .	176	. . .	32½ per cent. of ammonia (gas)
— Ammonii Acetatis	177	2 to 6 fl. dr.	
— — Citratis .	177	2 to 6 fl. dr.	

Name	Page	Dose	Strength
Liquor Arsenicalis	178	2 to 8 m.	1 gr. of Arsenic in 110 m. (1 grm. in 100 c.c.)
— Arsenici Hydrochloricus	178	2 to 8 m.	1 gr. of Arsenic in 110 m. (1 grm. in 100 c.c.)
— Arsenii et Hydrargyri Iodidi	179	5 to 20 m.	1 gr. of Arsen. Iodide and 1 gr. Mercuric Iodide in 110 m. (1 grm. of each in 100 c.c.)
— Atropinæ Sulphatis	180	½ to 1 m.	1 gr. of Atropine Sulphate in 110 m. (1 grm. in 100 c.c.)
— Bismuthi et Ammonii Citratis	180	½ to 1 fl. dr.	Equal to 3 gr. of Bismuth Oxide in 1 fl. dr. (5 grm. in 100 c.c.)
— Calcis	181	1 to 4 fl. oz.	Equal to ½ gr. of Lime in 1 fl. oz.
— — Chlorinatæ	182		
— — Saccharatus	182	20 to 60 m.	Equal to 1 gr. of Lime in 1 fl. dr., nearly
— Calumbæ Concentratus	183	½ to 1 fl. dr.	
— Caoutchouc	183		
— Chiratæ Concentratus	184	½ to 1 fl. dr.	
— Cuspariæ Concentratus	184	½ to 1 fl. dr.	
— Epispasticus	185		
— Ethyl Nitritis	185	20 to 60 m.	2½ to 3 per cent. of ethyl nitrite
— Ferri Acetatis	186	5 to 15 m.	
— — Perchloridi	187	5 to 15 m.	25 per cent. of Strong Sol. of Ferric Chloride
— — — Fortis	187	. . .	22½ gr. of Iron in 110 m. (22·5 grm. in 100 c.c.)
— — Pernitratis	188	5 to 15 m.	
— — Persulphatis	189		
— Hamamelidis	190		
— Hydrargyri Nitratis Acidus	190		
— — Perchloridi	191	½ to 1 fl. dr.	½ gr. in 1 fl. oz.
— Hydrogenii Peroxidi	191	½ to 2 fl. dr.	
— Iodi Fortis	192	. . .	11⅔ per cent. of free Iodine with 7 per cent. of Potassium Iodide
— Krameriæ Concentratus	192	½ to 1 fl. dr.	
— Magnesii Carbonatis	192	1 to 2 fl. oz.	
— Morphinæ Acetatis	193	10 to 60 m.	1 gr. of Morphine Acetate in 110 m. (1 grm. in 100 c.c.)
— — Hydrochloridi	194	10 to 60 m.	1 gr. of Morph. Hydrochl. in 110 m. (1 grm. in 100 c.c.)

Name	Page	Dose	Strength
Liquor Morphinæ Tartratis . .	194	10 to 60 m.	1 gr. of Morphine Tartrate in 110 m. (1 grm. in 100 c.c.)
— Pancreatis .	195		
— Picis Carbonis .	195		
— Plumbi Subacetatis Dilutus .	196		1 fl. oz. of Strong Solution in 80 fl. oz.
— — — Fortis .	196		
— Potassæ . .	197	10 to 30 m. freely diluted	6¼ gr., nearly, in 110 m. (6·22 grm. in 100 c.c.)
— — Arsenitis .	178	2 to 8 m.	1 gr. of Arsenic in 110 m. (1 grm. in 100 c.c.)
—Potassii Permanganatis . .	197	2 to 4 fl. dr.	1 gr. in 110 m. (1 grm. in 100 c.c.)
— Quassiæ Concentratus . .	198	½ to 1 fl. dr.	
— Rhei Concentratus . .	198	½ to 1 fl. dr.	
— Sarsæ Compositus Concentratus	199	2 to 8 fl. dr.	
— Senegæ Concentratus. . .	199	½ to 1 fl. dr.	
— Sennæ Concentratus . .	200	½ to 1 fl. dr.	
— Serpentariæ Concentratus	201	½ to 2 fl. dr.	
— Sodæ Chlorinatæ	201	10 to 20 m.	
— Sodii Arsenatis .	202	2 to 8 m.	1 gr. of Sodium Arsenate in 110m. (1 grm. in 100 c.c.)
— — Ethylatis .	202		
— Strychninæ Hydrochloridi. .	203	2 to 8 m.	1 gr. in 110 m. (1 grm. in 100 c.c.)
— Thyroidei .	203	5 to 15 m.	
— Trinitrini . .	204	½ to 2 m.	1 gr. in 110 m. (1 grm. in 100 c.c.)
— Zinci Chloridi .	204		
Liquorice Root .	143		
— — Comp. Powder	270	60 to 120 gr.	10 gr. of Senna in 60 gr.
— — Extract .	112		
— —Liquid Extract	112	½ to 1 fl. dr.	
List of Substances added in this Edition . .	xxiii		
— — — with Altered Composition in this Edit.	xxviii		
— — — omitted in this Edition	xxiv		
— — — transferred from Text to Appendix in this Edition . .	xxx		

Name	Page	Dose	Strength
List of Substances with Altered Names in this Edition .	xxvi		
— — — with Altered Strength in this Edition .	xxix		
Litharge . .	257		
Lithia Salts. See Lithium			
Lithii Carbonas .	205	2 to 5 gr.	
— Citras . .	206	5 to 10 gr.	
— — Effervescens .	206	60 to 120 gr.	
Lithium Carbonate	205	2 to 5 gr.	
— Citrate . .	206	5 to 10 gr.	
— — Effervescent .	206	60 to 120 gr.	
Litmus . . .	*397*		
— Solution . .	*409*		
Liver of Sulphur .	259		
Lobelia . . .	207		
— Ethereal Tincture of . .	354	5 to 15 m.	
Logwood . .	145		
— Decoction of .	94	$\frac{1}{2}$ to 2 fl. oz.	
Lotio Hydrargyri Flava . .	207		
— — Nigra . .	208		
Lotion, Black Mercurial . .	208		
— Yellow Mercurial	207		
Lozenge, Benzoic Acid . .	365	. . .	$\frac{1}{2}$ gr. in each
— Bismuth, Compound . .	366	. . .	2 gr. of Bismuth Oxycarbonate, 2 gr. of Magnesium Carbonate, and 4 gr. of Calcium Carbonate in each
— Carbolic Acid	365	. . .	1 gr. in each
— Catechu . .	366	. . .	1 gr. in each
— Eucalyptus Gum	366	. . .	1 gr. in each
— Guaiacum Res.	366	. . .	3 gr. in each
— Ipecacuanha .	367	. . .	$\frac{1}{4}$ gr. in each
— Krameria . .	367	. . .	1 gr. of Extract in each
— — and Cocaine .	367	. . .	$\frac{1}{20}$ gr. of Cocaine Hydrochloride in each
— Morphine . .	367	. . .	$\frac{1}{36}$ gr. of Morph. Hydroch. in each
— — and Ipecacuanha . .	367	. . .	$\frac{1}{36}$ gr. of Morph. Hydrochlor. and $\frac{1}{12}$ gr. of Ipecac. in each
— Phenol . .	365	. . .	1 gr. in each
— Potassium Chlorate	368	. . .	3 gr. in each
— Reduced Iron	366	. .	1 gr. in each

Name	Page	Dose	Strength
Lozenge, Santonin . .	368	. . .	1 gr. in each
— Sodium Bicarbonate . .	368	. . .	3 gr. in each
— Sulphur . .	368	. . .	5 gr. (Precipitated) in each
— Tannic Acid .	365	. . .	½ gr. in each
Lunar Caustic .	45	¼ to ½ gr.	
Lupulin . .	208	2 to 5 gr.	
Lupulus . .	208		
Maceration, Process for . .	*440*		
Magnesia, Calcined, Heavy .	209		
— — Light . .	209		
— Salts. See Magnesium			
— Fluid . .	192	1 to 2 fl. oz.	
— Levis . . — Ponderosa .	209		
Magnesii Carbonas Levis . . . — — Ponderosa .	210	For repeated doses, 5 to 30 gr.; for a single dose, 30 to 60 gr.	
— Sulphas . .	211	For repeated doses, 30 to 120 gr.; for a single dose, ¼ to ½ oz.	
— — Effervescens .	212	For repeated doses, 60 to 240 gr.; for a single dose, ½ to 1 oz.	
Magnesium Ammonio-Sulphate, Solution of .	*409*		
Magnesium Carbonate, Heavy . — — Light . .	210	For repeated doses, 5 to 30 gr.; for a single dose, 30 to 60 gr.	
— — Solution of .	192	1 to 2 fl. oz.	2 per cent. Magnesium Carbonate
Magnesium Oxide, Heavy . .	209		
— — Light . .	209		
Magnesium Sulphate . .	211	For repeated doses, 30 to 120 gr.; for a single dose, ¼ to ½ oz.	

NAME	PAGE	DOSE	STRENGTH
Magnesium Sulphate, Effervescent	212	For repeated doses, 60 to 240 gr.; for a single dose, $\frac{1}{2}$ to 1 oz.	
Magnesium Sulphate, Sol. of	*409*		
Magnesium Tests	*425*		
Male Fern	134		
— — Liquid Ext. of	111	45 to 90 m.	
Manganese Peroxide	*397*		
Measures and Weights of the Imperial System	*437*		
Mass	*437*		
Capacity	*437*		
Length	*437*		
Volume to Mass	*438*		
Impl. to Metric	*439*		
Measures and Weights of the Metric System	*438*		
Mass	*438*		
Capacity	*438*		
Length	*438*		
Cubic to Capacity	*438*		
Metric to Impl.	*439*		
Mel Boracis	212		
Mel Depuratum	212		
Menthol	213	$\frac{1}{2}$ to 2 gr.	
— Plaster	98		
Mercurial Lotion, Black	208		
— — Yellow	207		
— Plaster	97		
Mercuric Ammonium Chloride	151		
Mercuric Chloride	150	$\frac{1}{32}$ to $\frac{1}{16}$ gr.	
— — Solution of	191	$\frac{1}{2}$ to 1 fl. dr.	$\frac{1}{2}$ gr. in 1 fl. oz.
— — Test Solution	*416*		
Mercuric Iodide	148	$\frac{1}{32}$ to $\frac{1}{16}$ gr.	
— — Ointment	375	. . .	4 per cent.
— — Solution with Arsenious Iodide	179	5 to 20 m.	1 gr. of each in 110 m. (1 grm. of each in 100 c.c.)
Mercuric Nitrate, Acid Solution of	190		
— — Ointment	375		
— — — Diluted	376	. . .	20 per cent. of the stronger Mercuric Nitrate Ointment
Mercuric Oleate	148		

NAME	PAGE	DOSE	STRENGTH
Mercuric Oleate Ointment	376		
Mercuric Oxide, Red	149		
— — — Ointment	376		
Mercuric Oxide, Yellow	149		
— — — Ointment	376		
Mercurous Chloride	150	½ to 5 gr.	
— — Ointment of	377		
— — Pill of, Compound	251	4 to 8 gr.	1 gr. of Calomel in 4½ gr., nearly
— Nitrate, Sol. of	*409*		
Mercury	151		
— with Chalk	152	1 to 5 gr.	33⅓ per cent.
— Liniment of	172		
— Ointment	374		
— — Compound	374		
— Pill	250	4 to 8 gr.	33⅓ per cent.
Mercury, Tests for	*425*		
Mercury, Ammoniacum &, Plaster	96		
Mercury, Ammoniated	151		
— — Ointment	374	. . .	10 per cent.
Methyl Orauge	*397*		
— — Solution	*410*		
Metric System, Weights and Measures of	*438*		
Mezerei Cortex	213		
Mezereon Bark	213		
Microcosmic Salt	*397*		
Milk of Lime	*397*		
Milk Sugar	280		
Milk of Sulphur	317	20 to 60 gr.	
Mistura Ammoniaci	214	½ to 1 fl. oz.	
— Amygdalæ	214	½ to 1 fl. oz.	
— Creosoti	215	½ to 1 fl. oz.	
— Cretæ	215	½ to 1 fl. oz.	
— Ferri Composita	215	½ to 1 fl. oz.	
— Guaiaci	216	½ to 1 fl. oz.	
— Olei Ricini	216	1 to 2 fl. oz.	
— Sennæ Composita	217	1 to 2 fl. oz. as a draught	
— Spiritus Vini Gallici	217	1 to 2 fl. oz. as a draught	
Mitigated Caustic	46	. . .	33⅓ per cent. of Silver Nitrate
Mixture, Almond	214	½ to 1 fl. oz.	
— Ammoniacum	214	½ to 1 fl. oz.	
— of Brandy	217	1 to 2 fl. oz. as a draught	

NAME	PAGE	DOSE	STRENGTH
Mixture, Castor Oil	216	1 to 2 fl. oz. as a draught	
— Chalk	215	$\frac{1}{2}$ to 1 fl. oz.	
— Creosote	215	$\frac{1}{2}$ to 1 fl. oz.	
— Guaiacum	216	$\frac{1}{2}$ to 1 fl. oz.	
— of Iron, Compound	215	$\frac{1}{2}$ to 1 fl. oz.	
— — Senna, Compound	217	1 to 2 fl. oz. as a draught	
Morphinæ Acetas	217	$\frac{1}{8}$ to $\frac{1}{2}$ gr.	
— Acetatis Liquor	193	10 to 60 m.	1 gr. of Morph. Acet. in 110 m. (1 grm. in 100 c.c.)
— et Chloroformi, Tinctura Composita	343	5 to 15 m.	$\frac{3}{4}$ m. of Chloroform, $\frac{1}{2}$ m. of Dil. Hydrocyanic Acid, and $\frac{1}{11}$ gr. of Morph. Hydrochlor. in 10 m.
— Hydrochloridi, Liquor	194	10 to 60 m.	1 gr. of Morph. Hydrochl. in 110 m. (1 grm. in 100 c.c.)
— Hydrochloridum	218	$\frac{1}{8}$ to $\frac{1}{2}$ gr.	
— Injectio, Hypodermica	163	By subcutaneous injection, 2 to 5 m.	5 gr. of Morphine Tartrate in 110 m. (5 grm. in 100 c.c.)
— Suppositoria	321	. . .	$\frac{1}{4}$ gr. of Morphine Hydrochloride in each
— Tartras	219	$\frac{1}{8}$ to $\frac{1}{2}$ gr.	
— Tartratis, Liquor	194	10 to 60 m.	1 gr. of Morph. Tart. in 110 m. (1 grm. in 100 c.c.)
— Trochiscus	367	. . .	$\frac{1}{36}$ gr. of Morphine Hydrochloride in each
— — et Ipecacuanhæ	367	. . .	$\frac{1}{36}$ gr. of Morph. Hydrochlor. and $\frac{1}{12}$ gr. Ipecac. in each
Morphinated Water	*398*		
Morphine	*398*		
— Acetate	217	$\frac{1}{8}$ to $\frac{1}{2}$ gr.	
— — Solution of	193	10 to 60 m.	1 gr. in 110 m. (1 grm. in 100 c.c.)
Morphine Hydrochloride	218	$\frac{1}{8}$ to $\frac{1}{2}$ gr.	
— — Solution of	194	10 to 60 m.	1 gr. in 110 m. (1 grm. in 100 c.c.)
— Lozenge	367	. . .	$\frac{1}{36}$ gr. in each
— — with Ipecacuanha	367	. . .	$\frac{1}{36}$ gr. of Morph. Hydrochlor. and $\frac{1}{12}$ gr. of Ipecac. in each
— Tincture, Compound, of Chloroform and	343	5 to 15 m.	$\frac{3}{4}$ m. of Chloroform, $\frac{1}{2}$ m. of Diluted Hydrocyanic Acid, and $\frac{1}{11}$ gr. of Morphine Hydrochloride in 10 m.
— Suppositories	321	. . .	$\frac{1}{4}$ gr. of Morphine Hydrochloride in each
Morphine Tartrate	219	$\frac{1}{8}$ to $\frac{1}{2}$ gr.	

NAME	PAGE	DOSE	STRENGTH
Morphine Tartrate, Solution of	194	10 to 60 m.	1 gr. in 110 m. (1 grm. in 100 c.c.)
— — Hypodermic Injection of	163	By subcutaneous injection, 2 to 5 m.	5 gr. of Morphine Tartrate in 110 m. (5 grm. in 100 c.c.)
Moschus	220	5 to 10 gr.	
Mucilage of Gum Acacia	220, *398*		
— — Starch	*398*		
— — Tragacanth	220		
Mucilago Acaciæ	220		
— Tragacanthæ	220		
Musk	220	5 to 10 gr.	
Mustard	290		
— Black, Seed	290		
— Liniment	174		
— Oil of, Volatile	234		
— Paper	73		
— White, Seed	290		
Myristica	221		
Myrrh	221		
— and Aloes, Pill of	248	4 to 8 gr.	2 gr. of Socotrine Aloes and 1 gr. of Myrrh in 4gr., nearly
— Tincture of	355	½ to 1 fl. dr.	
Myrrha	221		
NAMES, Symbols, and Atomic Weights of the Chief Elements mentioned in the Pharmacopœia	*435*		
Naphthol	221	3 to 10 gr.	
Nessler's Solution of Ammonium Chloride	*404*		
— Reagent (Sol. of Potassio - Mercuric Iodide)	*411*		
Nitrates, Tests for	*426*		
Nitre. See Potassium Nitrate			
Nitric Acid	14, *398*	. . .	70 per cent. of hydrogen [nitrate
— — Diluted	15, *398*	5 to 20 m.	17·44 per cent. of hydrogen [nitrate
— — Fuming	*398*		
Nitrite, Amyl	34	For inhalation — The vapour of 2 to 5 m.	
Nitrites, Tests for	*426*		

NAME	PAGE	DOSE	STRENGTH
Nitroglycerin Tablets . .	333	1 or 2 tablets	$\frac{1}{100}$ gr. in each
Nitro-hydrochloric Acid, Diluted .	15	5 to 20 m.	
Nutmeg . . .	221		
— Oil of . .	230	$\frac{1}{2}$ to 3 m.	
— Spirit of . .	310	5 to 20 m.	
Nux Vomica . .	222	1 to 4 gr.	
— — Extract of .	117	$\frac{1}{4}$ to 1 gr.	5 per cent. of Strychnine
— — Liquid Extract of . .	118	1 to 3 m.	$1\frac{1}{2}$ gr. of Strychnine in 110 m. (1·5 grm. in 100 c.c.)
— — Tincture of .	355	5 to 15 m.	$\frac{1}{4}$ gr. of Strychnine in 110 m. (0·25 grm. in 100 c.c.)
Strychnine .	314	$\frac{1}{60}$ to $\frac{1}{15}$ gr.	
Strychnine, Syrup of Phosphate of Iron with Quinine and	327	$\frac{1}{2}$ to 1 fl. dr.	1 gr. of ferrous phosphate, $\frac{4}{5}$ gr. of Quinine Sulphate, $\frac{1}{32}$ gr. of Strychnine in 1 fl. dr.
— Hydrochloride . .	314	$\frac{1}{60}$ to $\frac{1}{15}$ gr.	
— — Solution of . .	203	5 to 10 m.	1 gr. in 110 m. (1 grm. in 100 c.c.)
OIL, Almond . .	223		
— Camphorated .	171		
— Castor . .	232	1 to 8 fl. dr.	
— Cod Liver . .	230	1 to 4 fl. dr.	
— Croton . .	226	$\frac{1}{2}$ to 1 m.	
— Linseed . .	229		
— Olive . .	231		
— Phosphorated .	231	1 to 5 m.	1 per cent. of Phosphorus
Oil of Anise . .	223	$\frac{1}{2}$ to 3 m.	
— — Cade . .	224		
— — Cajuput .	224	$\frac{1}{2}$ to 3 m.	
— — Caraway .	225	$\frac{1}{2}$ to 3 m.	
— — Chamomile .	224	$\frac{1}{2}$ to 3 m.	
— — Cinnamon .	225	$\frac{1}{2}$ to 3 m.	
— — Cloves . .	225	$\frac{1}{2}$ to 3 m.	
— — Copaiba .	226	5 to 20 m.	
— — Coriander .	226	$\frac{1}{2}$ to 3 m.	
— — Cubebs . .	227	5 to 20 m.	
— — Dill . .	223	$\frac{1}{2}$ to 3 m.	
— — Eucalyptus .	227	$\frac{1}{2}$ to 3 m.	
— — Juniper .	228	$\frac{1}{2}$ to 3 m.	
— — Lavender .	228	$\frac{1}{2}$ to 3 m.	
— — Lemon . .	228	$\frac{1}{2}$ to 3 m.	
— — Mustard, Vol.	234		
— — Nutmeg .	230	$\frac{1}{2}$ to 3 m.	
— — Peppermint .	229	$\frac{1}{2}$ to 3 m.	

Name	Page	Dose	Strength
Oil of Pimento .	232	½ to 3 m.	
— — Pine . .	232		
— — Rose . .	233		
— — Rosemary .	233	½ to 3 m.	
— — Sandal Wood	234	5 to 30 m.	
— — Santal Wood	234	5 to 30 m.	
— — Spearmint .	230	½ to 3 m.	
— — Theobroma .	235		
— — Turpentine	234, *398*	2 to 10 m.; anthelmintic, 3 to 4 fl. dr.	
Ointment, Aconitine	369	. . .	2 per cent.
— Ammoniated Mercury	374	. . .	10 per cent.
— Atropine . .	370	. . .	2 per cent.
— Belladonna .	370	. . .	0·6 per cent. of alkaloids
— Boric Acid .	369		
— Calomel . .	377	. . .	10 per cent.
— Cantharides .	371	. . .	10 per cent., nearly
— Capsicum . .	371		
— Carbolic Acid .	369	. . .	4 per cent.
— Chrysarobin .	372	. . .	4 per cent.
— Cocaine . .	372	. . .	4 per cent.
— Conium . .	372		
— Creosote . .	372	. . .	10 per cent.
— Eucalyptus .	373		
— Gall . . .	373		
— — and Opium .	373	. . .	7½ per cent. of Opium
— Hamamelis .	374		
— Iodine . .	377	. . .	4 per cent. of Potassium Iodide and 4 per cent. of added [Iodine
— Iodoform . .	377	. . .	10 per cent.
— Lead Acetate .	378		
— — Carbonate .	378		
— — Iodide . .	378		
— — Subacetate .	373		
— Mercuric Iodide	375	. . .	4 per cent.
— — Nitrate . .	375		
— — — Diluted .	376	. . .	20 per cent. of the stronger Mercuric Nitrate Ointment
— — Oleate . .	376		
— — Oxide, Yellow	376	. . .	2 per cent.
— — — Red . .	376	. . .	10 per cent.
— Mercurous Chloride . . .	377	. . .	10 per cent.
— Mercury .	374	. . .	48½ per cent.
— — Ammoniated	374	. . .	10 per cent.
— — Compound .	374	. . .	19½ per cent.
— — Iodide of, Red	375	. . .	4 per cent.
— — Nitrate of .	375		
— — — — Diluted	376	. . .	20 per cent. of the stronger Mercuric Nitrate Ointment

NAME	PAGE	DOSE	STRENGTH
Ointment, Paraffin	377		
— Phenol	369	. . .	4 per cent.
— Potassium Iodide	379		
— Red Precipitate	376	. . .	10 per cent.
— Resin	379		
— Rose-Water	370		
— Salicylic Acid	369	. . .	2 per cent.
— Spermaceti	371		
— Stavesacre	379		
— Sulphur	380		
— — Iodide	380	. . .	4 per cent.
— Tar	378		
— Veratrine	380	. . .	2 per cent.
—White Precipitate	374	. . .	10 per cent.
— Zinc	380		
— — Oleate	381		
Oleate, Mercuric	148		
— — Ointment	376		
— Zinc, Ointment	381		
Oleic Acid	16		
Oleum Amygdalæ	223		
— Anethi	223	½ to 3 m.	
— Anisi	223	½ to 3 m.	
— Anthemidis	224	½ to 3 m.	
— Cadinum	224		
— Cajuputi	224	½ to 3 m.	
— Carui	225	½ to 3 m.	
— Caryophylli	225	½ to 3 m.	
— Cinnamomi	225	½ to 3 m.	
— Copaibæ	226	5 to 20 m.	
— Coriandri	226	½ to 3 m.	
— Crotonis	226	½ to 1 m.	
— Cubebæ	227	5 to 20 m.	
— Eucalypti	227	½ to 3 m.	
— Juniperi	228	½ to 3 m.	
— Lavandulæ	228	½ to 3 m.	
— Limonis	228	½ to 3 m.	
— Lini	229		
—Menthæ Piperitæ	229	½ to 3 m.	
— — Viridis	230	½ to 3 m.	
— Morrhuæ	230	1 to 4 fl. dr.	
— Myristicæ	230	½ to 3 m.	
— Olivæ	231		
— Phosphoratum	231	1 to 5 m.	1 per cent. of Phosphorus
— Pimentæ	232	½ to 3 m.	
— Pini	232		
— Ricini	232	1 to 8 fl. dr.	
— Rosæ	233		
— Rosmarini	233	½ to 3 m.	
— Santali	234	5 to 30 m.	
— Sinapis Volatile	234		

NAME	PAGE	DOSE	STRENGTH
Oleum Terebinthinæ . .	234	2 to 10 m.; as anthelmintic, 3 to 4 fl. dr.	
— Theobromatis .	235		
Olive Oil . .	231		
Opium . . .	235	½ to 2 gr.	9·5 to 10·5 per cent. of morphine
Opium, Extract of .	119	¼ to 1 gr.	20 per cent. of morphine
— Liquid Extract of . . .	120	5 to 30 m.	¾ gr. of morphine in 110 m. (0·75 grm. in 100 c.c.)
— Liniment of .	173		
— Ointment, Gall and . . .	373	. . .	7½ per cent. of Opium
— Pill of Lead with	252	2 to 4 gr.	12½ per cent. of Opium
— Plaster of . .	98		
— Powder, Aromatic, of Chalk and	270	10 to 40 gr.	2½ per cent. of Opium
— Powder of, Compound . .	272	2 to 10 gr.	10 per cent. of Opium
— Tincture of .	356	5 to 15 m. for repeated doses; for a single dose, 20 to 30 m.	¾ gr. of anhydrous morphine in 110 m. (0·75 grm. in 100 c.c.) = 1 gr. of Opium in 15 m.
— Tincture of, Ammoniated . .	358	½ to 1 fl. dr.	Nearly 5 gr. of Opium in 1 fl. oz.
Pill of Ipecacuanha with Squill .	251	4 to 8 gr.	5 per cent. of Opium and 5 per cent. of Ipecacuanha
— Compound, of Soap .	253	2 to 4 gr.	20 per cent. of Opium
Powder, Compound, of Ipecac. .	271	5 to 15 gr.	10 per cent. of Opium and 10 per cent. of Ipecacuanha
— — — — Kino .	271	5 to 20 gr.	5 per cent. of Opium
Suppositories, Compound Lead . .	322	. . .	1 gr. of Opium and 3 gr. of Lead Acetate in each
Tincture of Camphor, Compound	340	½ to 1 fl. dr.	Equal to ¼ gr. of Opium in 1 fl. dr.
Apomorphine Hydrochloride . .	39	$\frac{1}{20}$ to $\frac{1}{10}$ gr. by hypodermic injection; by mouth, $\frac{1}{10}$ to ¼ gr.	
— — Hypodermic Injection of .	161	By hypodermic injection, 5 to 10 m.	1 gr. in 110 m. (1 grm. in 100 c.c.)

NAME	PAGE	DOSE	STRENGTH
Codeine . .	82	$\frac{1}{4}$ to 2 gr.	
— Phosphate .	82	$\frac{1}{4}$ to 2 gr.	
— Syrup of .	325	$\frac{1}{2}$ to 2 fl. dr.	$\frac{1}{4}$ gr. of Codeine Phosphate in 1 fl. dr.
Morphine .	*398*		
— Acetate .	217	$\frac{1}{8}$ to $\frac{1}{2}$ gr.	
— — Solution of . .	193	10 to 60 m.	1 gr. in 110 m. (1 grm. in 100 c.c.)
Morphine Hydrochloride	218	$\frac{1}{8}$ to $\frac{1}{2}$ gr.	
— — Solution of . .	194	10 to 60 m.	1 gr. in 110 m. (1 grm. in 100 c.c.)
— Lozenge .	367	. . .	$\frac{1}{36}$ gr. in each
— — with Ipecacuanha .	367	. . .	$\frac{1}{36}$ gr. of Morphine Hydrochloride and $\frac{1}{12}$ gr. of Ipecacuanha in each
— Tincture, Compound, of Chloroform and .	343	5 to 15 m.	$\frac{3}{4}$ m. of Chloroform, $\frac{1}{2}$ m. of Diluted Hydrocyanic Acid, and $\frac{1}{11}$ gr. of Morphine Hydrochloride in 10 m.
— Suppositories . .	321	. . .	$\frac{1}{4}$ gr. of Morphine Hydrochloride in each
Morphine Tartrate . .	219	$\frac{1}{8}$ to $\frac{1}{2}$ gr.	
— — Hypodermic Injection of .	163	By hypodermic injection, 2 to 5 m.	5 gr. of Morphine Tartrate in 110 m. (5 grm. in 100 c.c.)
— — Solution of . .	194	10 to 60 m.	1 gr. in 110 m. (1 grm. in 100 c.c.)
Orange Peel, Bitter	49, 50		
— Infusion of .	155	$\frac{1}{2}$ to 1 fl. oz.	
— — — Compound	155	$\frac{1}{2}$ to 1 fl. oz.	
— Syrup of . .	323	$\frac{1}{2}$ to 1 fl. dr.	
— Tincture of .	338	$\frac{1}{2}$ to 1 fl. dr.	
— Wine . .	384		
Orange Flower Water . .	40		
— — Syrup of .	323	$\frac{1}{2}$ to 1 fl. dr.	
Otto of Rose . .	233		
Oxalates, Tests for	*426*		
Oxymel . . .	238	1 to 2 fl. dr.	
Oxymel Scillæ .	238	$\frac{1}{2}$ to 1 fl. dr.	
Oxymel of Squill .	238	$\frac{1}{2}$ to 1 fl. dr.	
PANAMA Bark . .	275		
Pancreatic Solution	195		
Papaveris Capsulæ	239		
Paper, Litmus .	*397*		
— Mustard . .	73		

NAME	PAGE	DOSE	STRENGTH
Paper, Turmeric .	*402*		
Papers, Test . .	*402*		
Para-acet-phenetidin . . .	242	5 to 10 gr.	
Paraffin, Hard .	239		
— Liquid . .	239		
— Ointment . .	377		
— Soft . . .	240		
Paraffinum Durum	239		
— Liquidum . .	239		
— Molle . .	240		
Paraldehyde . .	240	½ to 2 fl. dr.	
Paraldehydum .	240	½ to 2 fl. dr.	
Paregoric . .	340	½ to 1 fl. dr.	1 fl. dr. equals ¼ gr. of Opium
Paregoric Elixir .			
Pareira Root . .	241		
— Liquid Extract of	121	½ to 2 fl. dr.	
Pareiræ Radix .	241		
Peel, Bitter-Orange	49, 50		
— Lemon . .	169, *444*		
Pepper, Black .	254		
— Confection .	85	60 to 120 gr.	
Peppermint, Oil of	229	½ to 3 m.	
— Spirit of . .	309	5 to 20 m.	
— Water . .	43, *443*		
Pepsin . . .	241	5 to 10 gr.	
— Glycerin of .	142	1 to 2 fl. dr.	
Pepsinum . .	241	5 to 10 gr.	
Perchloride of Mercury. See Mercuric Chloride .	150		
Percolation, Process for . .	*440*		
Peru, Balsam of .	50	5 to 15 m.	
Petroleum Ether .	*399*		
Petroleum Spirit .			
Phenacetin . .	242	5 to 10 gr.	
Phenacetinum .	242	5 to 10 gr.	
Phenazone . .	243	5 to 20 gr.	
Phenazonum . .	243	5 to 20 gr.	
Phenol . . .	8, *399*	1 to 3 gr.	
— Glycerin of .	140	. . .	1 oz. in 5 fl. oz. (20 grm. in 100 c.c.)
— Liquefied . .	9	1 to 3 m.	90·9 per cent. of Phenol
— Lozenge . .	365	. . .	1 gr. in each
— Ointment . .	369		
— Suppositories .	319	. . .	1 gr. in each
Phenol-phthalein .	*399*		
— Solution of .	*410*		
Phenyl-acetamide .	2	1 to 3 gr.	

Name	Page	Dose	Strength
Phosphates, Tests	426		
Phosphorated Oil	231	1 to 5 m.	1 per cent. of Phosphorus
Phosphoric Acid, Concentrated	17	. . .	66·3 per cent. of hydrogen orthophosphate
— — Diluted	17	5 to 20 m.	13·8 per cent. of hydrogen orthophosphate
Phosphorus	244	$\frac{1}{100}$ to $\frac{1}{20}$ gr.	
— Pill	251	1 to 2 gr.	1 gr. in 50 gr.
Physostigmatis Semina	244		
Physostigminæ Sulphas	245	$\frac{1}{60}$ to $\frac{1}{20}$ gr.	
Physostigmine Sulphate	245	$\frac{1}{60}$ to $\frac{1}{20}$ gr.	
— Discs of	168	. . .	$\frac{1}{1000}$ gr. of Physostigmine Sulphate in each
Picric Acid	399		
— — Solution	410		
Picrotoxin	246	$\frac{1}{100}$ to $\frac{1}{25}$ gr.	
Picrotoxinum	246	$\frac{1}{100}$ to $\frac{1}{25}$ gr.	
Pill of Aloes and Asafetida	247	4 to 8 gr.	1 gr. of Socotrine Aloes and 1 gr. of Asafetida in 4 gr.
— — — Barbados	247	4 to 8 gr.	1 gr. in 2 gr., nearly
— — — and Iron	247	4 to 8 gr.	1 gr. of Barbados Aloes and ½ gr. of Exsiccated Ferrous Sulphate in 4½ gr.
— — — — Myrrh	248	4 to 8 gr.	1 gr. of Soc. Aloes in 2¼ gr.
— — — Socotrine	248	4 to 8 gr.	1 gr. in 2 gr., nearly
— — Barb. Aloes	247	4 to 8 gr.	1 gr. in 2 gr., nearly
— — Calomel, Co.	251	4 to 8 gr.	
— — Colocynth, Compound	249	4 to 8 gr.	1 gr. of Coloc. Pulp, 2 gr. of Barb. Aloes, and 2 gr. of Scam. Resin in 6 gr., nearly
— — — and Hyoscyamus	249	4 to 8 gr.	2 gr. of Comp. Coloc. Pill and 1 gr. Ext. Hyoscy. in 3 gr.
— — Galbanum, Compound	250	4 to 8 gr.	1 gr. each of Galbanum, Asafetida, and Myrrh in 3½ gr.
— — Gamboge, Compound	248	4 to 8 gr.	1 gr. of Gamboge and 1 gr. of Barb. Aloes in 6 gr.
— — Ipecacuanha with Squill	251	4 to 8 gr.	1 gr. of Opium and 1 gr. of Ipecacuanha in 20 gr.
— Iron	249	5 to 15 gr.	1 gr. of ferrous carbonate in 5 gr.
— of Lead with Opium	252	2 to 4 gr.	1 gr. of Opium in 8 gr.
— Mercurous Chloride, Compound	251	4 to 8 gr.	1 gr. of Calomel, 1 gr. of Sulphurated Antimony, and 2 gr. of Guaiac. Resin in 4½ gr.
— Mercury	250	4 to 8 gr.	1 gr. of Mercury in 3 gr.
— Phosphorus	251	1 to 2 gr.	1 gr. in 50 gr.

Name	Page	Dose	Strength
Pill of Quinine Sulphate . . .	252	2 to 8 gr.	5 gr. in 6 gr.
— Rhubarb, Compound	253	4 to 8 gr.	2 gr. of Rhubarb and 1½ gr. of Socotrine Aloes in 8 gr.
— Scammony, Compound	253	4 to 8 gr.	30 per cent. each of Scammony Resin and Jalap Resin
— of Soap, Comp. .	253	2 to 4 gr.	1 gr. of Opium in 5 gr.
— — Socotrine Aloes	248	4 to 8 gr.	1 gr. in 2 gr., nearly
— Squill, Compound	254	4 to 8 gr.	1 gr. in 4 gr., nearly
Pilocarpinæ Nitras	246	$\frac{1}{20}$ to ½ gr.	
Pilocarpine Nitrate	246	$\frac{1}{20}$ to ½ gr.	
Pilula Aloes Barb.	247	4 to 8 gr.	1 gr. in 2 gr., nearly
— — et Asafetidæ .	247	4 to 8 gr.	1 gr. of Socotrine Aloes and 1 gr. of Asafetida in 4 gr.
— — — Ferri .	247	4 to 8 gr.	1 gr. of Barbados Aloes and ½ gr. of Exsiccated Ferrous Sulphate in 4½ gr.
— — — Myrrhæ .	248	4 to 8 gr.	1 gr. of Soc. Aloes in 2¼ gr.
— — Socotrinæ .	248	4 to 8 gr.	1 gr. in 2 gr., nearly
— Cambogiæ Composita . .	248	4 to 8 gr.	1 gr. of Gamboge and 1 gr. of Barbados Aloes in 6 gr.
— Colocynthidis Composita	249	4 to 8 gr.	1 gr. of Coloc. Pulp, 2 gr. of Barb. Aloes, and 2 gr. of Scam. Resin in 6 gr., nearly
— — et Hyoscyami	249	4 to 8 gr.	2 gr. of Comp. Coloc. Pill and 1 gr. of Ext. Hyoscy. in 3 gr.
— Ferri . . .	249	5 to 15 gr.	1 gr. of ferrous carbonate in 5 gr.
— Galbani Composita . .	250	4 to 8 gr.	1 gr. each of Galbanum, Asafetida, and Myrrh in 3½ gr.
— Hydrargyri .	250	4 to 8 gr.	1 gr. of Mercury in 3 gr.
— — Subchloridi Composita . .	251	4 to 8 gr.	1 gr. of Calomel, 1 gr. of Sulphurated Antimony, and 2 gr. of Guaiac. Resin in 4½ gr.
— Ipecacuanhæ cum Scilla	251	4 to 8 gr.	1 gr. of Opium and 1 gr. of Ipecacuanha in 20 gr.
— Phosphori . .	251	1 to 2 gr.	1 gr. in 50 gr.
— Plumbi cum Opio	252	2 to 4 gr.	1 gr. of Opium in 8 gr.
— Quininæ Sulph.	252	2 to 8 gr.	5 gr. in 6 gr.
— Rhei Composita	253	4 to 8 gr.	2 gr. of Rhubarb and 1½ gr. of Socotrine Aloes in 8 gr.
— Saponis Comp. .	253	2 to 4 gr.	1 gr. of Opium in 5 gr.
— Scammonii Composita	253	4 to 8 gr.	30 per cent. each of Scammony Resin and Jalap Resin
— Scillæ Composita	254	4 to 8 gr.	1 gr. in 4 gr., nearly
Pimenta . .	254		
Pimento . .	254		
— Oil of . .	232	½ to 3 m.	

Name	Page	Dose	Strength
Pimento Water .	43, *443*		
Pine, Oil of . .	232		
Piper Nigrum .	254		
Pitch, Burgundy .	255		
— Plaster . .	98		
Pix Burgundica .	255		
Pix Carbonis Præparata . .	255		
Pix Liquida . .	255		
Plaster, Adhesive .	99		
— Ammoniacum and Mercury	96		
— Belladonna .	96		
— Cantharides .	97	. . .	35 per cent.
— Lead . . .	99		
— — Iodide . .	99		
— Menthol . .	98		
— Mercurial . .	97		
— Opium . .	98		
— Pitch . .	98		
— Resin . .	99		
— Soap . . .	100		
— Warming . .	97		
Platinic Chloride Solution . .	*410*		
Plumbi Acetas .	256	1 to 5 gr.	
— Carbonas . .	256		
— Iodidum . .	256		
— Oxidum . .	257		
Plummer's Pill .	251	4 to 8 gr.	
Podophylli Resina .	257	$\frac{1}{4}$ to 1 gr.	
— Rhizoma . .	258		
Podophyllum Rhizome . . . — Root . . .	258		
— Resin . .	257	$\frac{1}{4}$ to 1 gr.	
— Tincture of .	358	5 to 15 m.	$3\frac{2}{3}$ gr. of Resin in 110 m. (3·65 grm. in 100 c.c.)
Pomegranate Bark	144		
— Decoction of .	94	$\frac{1}{2}$ to 2 fl. oz.	
Poppy Capsules .	239		
Poppy, Red-, Petals	279		
— — Syrup of .	330	$\frac{1}{2}$ to 1 fl. dr.	
Potash, Caustic .	258, *400*		
— Salts. See Potassium			
— Solution of .	197, *413*	10 to 30 m. freely diluted	6·22 gr. in 110 m. (6·22 grm. in 100 c.c.)
Potassa Caustica .	258		

Name	Page	Dose	Strength
Potassa Sulphurata	259		
Potassii Acetas	260	10 to 60 gr.	
— Bicarbonas	260	5 to 30 gr.	
— Bichromas	261	$\frac{1}{10}$ to $\frac{1}{5}$ gr.	
— Bromidum	261	5 to 30 gr.	
— Carbonas	262	5 to 20 gr.	
— Chloras	263	5 to 15 gr.	
— Citras	263	10 to 40 gr.	
— Iodidum	264	5 to 20 gr.	
— Nitras	264	5 to 20 gr.	
— Permanganas	265	1 to 3 gr.	
— Sulphas	265	10 to 40 gr.	
— Tartras	266	30 to 240 gr.	
— — Acidus	266	20 to 60 gr.	
Potassio-cupric Tartrate, Solution of	*411*		
Potassio-mercuric Iodide, Sol. of	*411*		
Potassio-tartrate of Antimony	39	Diaphoretic, $\frac{1}{24}$ to $\frac{1}{8}$ gr.; emetic, 1 to 2 gr.	
Potassium Acetate	260	10 to 60 gr.	
— — Solution	*411*		
— Acid Sulphite	*400*		
— — Tartrate	266	20 to 60 gr.	
— — — Solution	*412*		
Comp. Powder of Jalap	271	20 to 60 gr.	
Confection of Sulphur	87	60 to 120 gr.	
— Bicarbonate	260	5 to 30 gr.	
— Bichromate	261, *399*	$\frac{1}{10}$ to $\frac{1}{5}$ gr.	
— — Volumetric Solution	*431*		
— Bromide	261	5 to 30 gr.	
— Carbonate	262	5 to 20 gr.	
— — Solution	*412*, *435*		
— Chlorate	263, *399*	5 to 15 gr.	
— — Lozenge	368		3 gr. in each
— Chromate	*399*		
— — Solution	*412*		
— Citrate	263	10 to 40 gr.	
— Cyanide	*399*		
— — Solution	*412*		
— Dichromate	261		
— Ferricyanide	*399*		
— — Solution	*412*		
— Ferrocyanide	*400*		
— — Solution	412		

NAME	PAGE	DOSE	STRENGTH
Potassium Hydrate	258, *400*		
— Hydrogen Carb.	260	5 to 30 gr.	
— — Sulphite	*400*		
— Hydroxide	258, *400*		
— — Alcoholic Solution of	*413*, *433*		
— — Aqueous Solution of	197, *413*	10 to 30 m. freely diluted	$6\frac{1}{4}$ gr., nearly, in 110 m. (6·22 grm. in 100 c.c.)
— Iodide	264, *400*	5 to 20 gr.	
— — Ointment	379		
— — with Soap, Liniment of	173		
— — Solution	*413*		
— Nitrate	264	5 to 20 gr.	
— Permanganate	265, *400*	1 to 3 gr.	
— — Solution	197, *413*	2 to 4 fl. dr.	1 gr. in 110 m. (1 grm. in 100 c.c.)
— Red Chromate	261, *399*	$\frac{1}{10}$ to $\frac{1}{5}$ gr.	
— and Sodium, Tartrate of	291	120 to 240 gr.	
— Sulphate	265, *400*	10 to 40 gr.	
— Tartrate	266	30 to 240 gr.	
Potassium, Tests for	*427*		
Powder of Almonds, Comp.	268		
— Antimonial	268	3 to 6 gr.	$33\frac{1}{3}$ per cent. of Antimonious [Oxide
— Araroba	44		
— of Catechu, Compound	269	10 to 40 gr.	
— — Chalk, Aromatic	269	10 to 60 gr.	
— — — — with Opium	270	10 to 40 gr.	$2\frac{1}{2}$ per cent. of Opium
— — Cinnamon, Compound	269	10 to 40 gr.	
— Effervescent Tartarated Soda	273		
— of Elaterin, Compound	270	1 to 4 gr.	$2\frac{1}{2}$ per cent. of Elaterin
— Goa	44		
— Gregory's	272	20 to 60 gr.	
— of Ipecacuanha, Compound	271	5 to 15 gr.	10 per cent. of Opium; 10 per cent. of Ipecacuanha
— — Jalap, Comp.	271	20 to 60 gr.	$33\frac{1}{3}$ per cent. of Jalap
— — Kino, Compound	271	5 to 20 gr.	5 per cent. of Opium; 75 per cent. of Kino
— — Liquorice, Compound	270	60 to 120 gr.	10 gr. of Senna in 60 gr.
— — Opium, Compound	272	2 to 10 gr.	10 per cent. of Opium

NAME	PAGE	DOSE	STRENGTH
Powder of Rhubarb, Compound	272	20 to 60 gr.	22 per cent. of Rhubarb Root, 66½ per cent. of Light Magnesia, nearly
— — Scammony, Compound . .	272	10 to 20 gr.	50 per cent. of Scammony Resin; 37½ per cent. of Jalap; 12½ per cent. of Ginger
— Seidlitz . .	273		
— of Tragacanth, Compound . .	273	20 to 60 gr.	
Precipitated Calcium Carbonate	60	10 to 60 gr.	
— Chalk . .	60	10 to 60 gr.	
Precipitated Sulphur	317	20 to 60 gr.	
Prepared Chalk .	90	10 to 60 gr.	
— Coal Tar . .	255		
— Storax . .	315		
— Suet . . .	289		
Prune, Virginian, Bark . . .	267		
— — Syrup of .	329	½ to 1 fl. dr.	
— — Tincture of .	359	½ to 1 fl. dr.	
Prunes . . .	267		
Pruni Virginianæ Cortex . .	267		
Prunum . . .	267		
Pterocarpi Lignum	268		
Pulvis Amygdalæ Compositus .	268		
— Antimonialis .	268	3 to 6 gr.	33⅓ per cent. of Antimonious Oxide
— Catechu Compositus . .	269	10 to 40 gr.	
— Cinnamomi Compositus	269	10 to 40 gr.	
— Cretæ Aromaticus . . .	269	10 to 60 gr.	
— — — cum Opio	270	10 to 40 gr.	2½ per cent. of Opium
— Elaterini Compositus . .	270	1 to 4 gr.	2½ per cent. of Elaterin
— Glycyrrhizæ Compositus	270	60 to 120 gr.	10 gr. of Senna in 60 gr.
— Ipecacuanhæ Compositus	271	5 to 15 gr.	10 per cent. of Opium; 10 per cent. of Ipecacuanha
— Jalapæ Compositus . .	271	20 to 60 gr.	33⅓ per cent. of Jalap
— Kino Compositus . .	271	5 to 20 gr.	5 per cent. of Opium; 75 per cent. of Kino
— Opii Compositus . .	272	2 to 10 gr.	10 per cent. of Opium

NAME	PAGE	DOSE	STRENGTH
Pulvis Rhei Compositus	272	20 to 60 gr.	22 per cent. of Rhubarb Root, 66½ per cent. of Light Magnesia, nearly
— Scammonii Compositus	272	10 to 20 gr.	50 per cent. of Scammony Resin; 37½ per cent. of Jalap; 12½ per cent. of Ginger
— Sodæ Tartaratæ Effervescens	273		
— Tragacanthæ Compositus	273	20 to 60 gr.	
Purified Cream of Tartar	266	20 to 60 gr.	
— Ether	26		
— Ox Bile	125	5 to 15 gr.	
Pyrethri Radix	273		
Pyrethrum Root	273		
— Tincture of	359		
Pyroxylin	274		
— Solution of	413		
Pyroxylinum	274		
QUASSIA Wood	274		
— Concent. Sol. of	198	½ to 1 fl. dr.	
— Infusion	159	½ to 1 fl. oz.	
— Tincture	359	½ to 1 fl. dr.	
Quassiæ Lignum	274		
Quillaia Bark	275		
— Tincture	360	½ to 1 fl. dr.	
Quillaiæ Cortex	275		
Quininæ Hydrochl.	275	1 to 10 gr.	
— — Acidum	276	1 to 10 gr.	
— Sulphas	276	1 to 10 gr.	
Quinine Hydrochloride	275	1 to 10 gr.	
— Tincture of	360	½ to 1 fl. dr.	2 gr. of Quin. Hydrochl. in 110 m. (2 grm. in 100 c.c.)
— Wine	385	½ to 1 fl. oz.	1 gr. of Quinine Hydrochloride in 1 fl. oz.
Quinine Hydrochloride, Acid	276	1 to 10 gr.	
Quinine Sulphate	276	1 to 10 gr.	
— — Pill of	252	2 to 8 gr.	5 gr. in 6 gr.
— Ammoniated Tincture of	360	½ to 1 fl. dr.	2 gr. of Quinine Sulphate in 110 m. (2 grm. in 100 c.c.)
— and Iron Citrate	129	5 to 10 gr.	15 per cent. of anhydrous quinine
Syrup of Phosphate of Iron with Quinine and Strychnine	327	½ to 1 fl. dr.	1 gr. of ferrous phosphate, $\frac{4}{5}$ gr. of Quinine Sulphate, $\frac{1}{32}$ gr. of Strychnine, in 1 fl. dr.

NAME	PAGE	DOSE	STRENGTH
RECTIFIED Spirit .	310	. . .	90 per cent. of ethyl hydroxide, by volume; 85·65 per cent. by weight
Red Chromate of Potassium .	261		
— Cinchona Bark	77		
— Litmus Paper .	*397*		
— Mercuric Oxide .	149		
— — — Ointment	376	. . .	10 per cent.
Red-Poppy Petals .	279		
— — Syrup of .	330	$\frac{1}{2}$ to 1 fl. dr.	
Red Precipitate Ointment	376	. . .	10 per cent. of Red Mercuric Oxide
Red-Rose Petals .	280		
Red Sandal Wood — Sanders Wood .	268		
Reduced Iron .	132	1 to 5 gr.	
— — Lozenge .	366	. . .	1 gr. in each
Refined Sugar .	280		
Resin . . .	278		
— Ointment .	379		
— Plaster . .	99		
Resin, Guaiacum .	145	5 to 15 gr.	
— Jalap . .	166	2 to 5 gr.	
— Podophyllum .	257	$\frac{1}{4}$ to 1 gr.	
— Scammony .	286	3 to 8 gr.	
Resina . . .	278		
— Guaiaci . .	145	5 to 15 gr.	
— Jalapæ . .	166	2 to 5 gr.	
— Podophylli .	257	$\frac{1}{4}$ to 1 gr.	
— Scammonii .	286	3 to 8 gr.	
Rhamni Purshiani Cortex . .	69		
Rhatany Root. See Krameria Root .	167		
Rhei Radix . .	279	3 to 10 gr. for repeated doses; for a single dose, 15 to 30 gr.	
Rhizome, Arnica .	47		
— Male Fern .	134		
— Podophyllum .	258		
— Serpentary .	289		
— Valerian . .	381		
Rhœados Petala .	279		
Rhubarb Root .	279	3 to 10 gr. for repeated doses; for a single dose, 15 to 30 gr.	

Name	Page	Dose	Strength
Rhubarb, Concentrated Sol. of	198	½ to 1 fl. dr.	10 oz. of Rhubarb Root for 20 fl. oz.
— Extract of	122	2 to 8 gr.	
— Infusion	159	½ to 1 fl. oz.	
— Pill, Compound	253	4 to 8 gr.	2 gr. of Rhubarb, and 1½ gr. of Socotrine Aloes in 8 gr.
— Powder, Compound	272	20 to 60 gr.	22 per cent. of Rhubarb Root, 66½ per cent. of Light Magnesia, nearly
— Syrup of	329	½ to 2 fl. dr.	
— Tincture of, Compound	361	½ to 1 fl. dr. for repeated doses; for a single dose, 2 to 4 fl. dr.	110 m. equal 10 gr. of Rhubarb Root
Rochelle Salt	291	120 to 240 gr.	
Root, Aconite	22		
— Arnica	47		
— Belladonna	52		
— Calumba	62		
— Gelsemium	137		
— Gentian	137		
— Hemidesmus	146		
— Horseradish	46		
— Ipecacuanha	164		
— Krameria	167		
— Liquorice	143		
— Pareira	241		
— Pyrethrum	273		
— Rhubarb	279	3 to 10 gr. for repeated doses; for a single dose, 15 to 30 gr.	
— Sassafras	285		
— Scammony	285		
— Senega	288		
— Sumbul	319		
— Taraxacum	334		
Rosæ Gallicæ Petala	280		
Rose Basis, Lozenges	441		
Rose, Oil of	233		
Rose, Red-, Petals	280		
Roses, Acid Infusion of	159	½ to 1 fl. oz.	
— Confection of	86		
— Syrup of	330	½ to 1 fl. dr.	
Rose Water	44		
— — Ointment	370		
Rosemary, Oil of	233	½ to 3 m.	
— Spirit of	312		

NAME	PAGE	DOSE	STRENGTH
SACCHARATED Iron Carbonate	126	10 to 30 gr.	33 per cent. of ferrous carbonate
— Solution of Lime	182	20 to 60 m.	Equal to 1 gr. of Lime in 1 fl. dr., nearly
Saccharin	138		
Saccharum Lactis	280		
— Purificatum	280		
Sacred Bark	69		
Saffron	90		
— Tincture of	347	5 to 15 m.	
Sal Volatile, Spirit of	305		
Salicin	281	5 to 20 gr.	
Salicinum	281	5 to 20 gr.	
Salicylate, Bismuth	55	5 to 20 gr.	
— Sodium	298	10 to 30 gr.	
Salicylic Acid	18	5 to 20 gr.	
— — Ointment	369	. . .	2 per cent.
Salol	281	5 to 15 gr.	
Salt of Tartar	262	5 to 20 gr.	
Saltpetre	264	5 to 20 gr.	
Sambuci Flores	282		
Sandal Wood, Oil of	234	5 to 30 m.	
— — Red	268		
Sanders Wood, Red	268		
Santonin	282	2 to 5 gr.	
— Lozenge	368	. . .	1 gr. in each
Santoninum	282	2 to 5 gr.	
Sapo Animalis	283		
— Durus	283		
— Mollis	284		
Sarsæ Radix	284		
Sarsaparilla	284		
— Concent. Sol. of.	199	2 to 8 fl. dr.	
— Jamaica	284		
— Liquid Ext. of	122	2 to 4 fl. dr.	
Sassafras Radix	285		
— Root	285		
Scammoniæ Radix	285		
— Resina	286	3 to 8 gr.	
Scammonium	286	5 to 10 gr.	
Scammony Root	285		
Scammony	286	5 to 10 gr.	
Scammony Resin	286	3 to 8 gr.	
Comp. Pill of Scammony	253	4 to 8 gr.	30 per cent. of Scammony Resin and 30 per cent. of Jalap Resin
Compound Powder of Scammony	272	10 to 20 gr.	50 per cent. of Scammony Resin; 37½ per cent. of Jalap; 12½ per cent. of Ginger

Name	Page	Dose	Strength
Extract of Colocynth, Compound	109	2 to 8 gr.	
Pill of Colocynth, Compound .	249	4 to 8 gr.	1 gr. of Coloc. Pulp, 2 gr. of Barb. Aloes, and 2 gr. of Scam. Resin in 6 gr. nearly
Pill of Colocynth and Hyoscyamus	249	4 to 8 gr.	2 gr. of Compound Colocynth Pill and 1 gr. Ext. of Hyoscyamus in 3 gr.
Scilla . . .	287	1 to 3 gr.	
Scoparii Cacumina	287		
Scopolamine Hydrobromide .	153	$\frac{1}{200}$ to $\frac{1}{100}$ gr.	
Seidlitz Powder .	273		
Selenium, Tests for	427		
Senega Root . .	288		
— Concent. Sol. of	199	½ to 1 fl. dr.	
— Infusion of .	160	½ to 1 fl. oz.	
— Tincture of .	361	½ to 1 fl. dr.	
Senegæ Radix .	288		
Senna Alexandrina . . — Indica . .	288		
Senna, Alexandrian . . — East Indian . — Tinnivelly .	288		
— Concentrated Solution of	200	½ to 1 fl. dr.	
— Confection of .	86	60 to 120 gr.	
— Infusion of .	160	½ to 1 fl. oz.; as a draught, 2 fl. oz.	
— Mixture of, Compound	217	1 to 2 fl. oz. as a draught	
— Syrup of . .	331	½ to 2 fl. dr.	
— Tincture of .	362	½ to 1 fl. dr. for repeated doses; for a single dose, 2 to 4 fl. dr.	
Compound Powder of Liquorice .	270	60 to 120 gr.	10 gr. of Senna in 60 gr.
Serpentariæ Rhizoma . .	289		
Serpentary Rhizome . .	289		
— Concentrated Solution of	201	½ to 2 fl. dr.	

Name	Page	Dose	Strength
Serpentary, Infusion of	161	½ to 1 fl. oz.	
— Tincture of	362	½ to 1 fl. dr.	
Sevum Præparatum	289		
Sherry	386		
Silver Ammonio-Nitrate, Sol. of	*413*		
Silver Nitrate	45	¼ to ½ gr.	
— — Solution of	*413*		
— — Volumetric Solution of	*432*		
Mitigated Caustic	46	. . .	33⅓ per cent. of Silver Nitrate
Toughened Caustic	45	. . .	95 per cent. of Silver Nitrate
Silver Oxide	46	½ to 2 gr.	
Silver, Tests for	*427*		
Sinapis	290		
— Albæ Semina	290		
— Nigræ Semina	290		
Slaked Lime	60		
Soap, Curd	283		
— Liniment of, and Potassium Iodide	173		
Soap, Hard	283		
— Compound Pill of	253	2 to 4 gr.	1 gr. of Opium in 5 gr.
— Plaster	100		
Soap, Soft	284		
— Liniment of	173		
Socotrine Aloes	28	2 to 5 gr.	
— — Pill of	248	4 to 8 gr.	2 gr. in 4 gr., nearly
Aloes and Asafetida, Pill of	247	4 to 8 gr.	1 gr. of Socotrine Aloes and 1 gr. of Asafetida in 4 gr.
— and Myrrh, Pill of	248	4 to 8 gr.	1 gr. of Socotrine Aloes in 2¼ gr.
Aloin	29	½ to 2 gr.	
Benzoin, Compound Tincture of	339	½ to 1 fl. dr.	
Rhubarb, Comp. Pill of	253	4 to 8 gr.	
Soda Salts. See Sodium	.		
— Solution of, Chlorinated	201		
Soda Tartarata	291	120 to 240 gr.	
Soda, Tartarated	291	120 to 240 gr.	

NAME	PAGE	DOSE	STRENGTH
Soda, Tartarated, Effervescent Powder	73		
Sodii Arsenas .	291	$\frac{1}{40}$ to $\frac{1}{10}$ gr.	
— Benzoas . .	292	5 to 30 gr.	
— Bicarbonas .	292	5 to 30 gr.	
— Bromidum .	293	5 to 30 gr.	
— Carbonas . .	294	5 to 30 gr.	
— — Exsiccatus .	294	3 to 10 gr.	
— Chloridum .	295		
— Citro-Tartras Effervescens	295	60 to 120 gr.	
— Hypophosphis .	295	3 to 10 gr.	
— Iodidum . .	296	5 to 20 gr.	
— Nitris . .	297	1 to 2 gr.	
— Phosphas . .	297	30 to 120 gr. for repeated doses; for a single dose, ¼ to ½ oz.	
— — Effervescens	298	60 to 120 gr. for repeated doses; for a single dose, ¼ to ½ oz.	
— Salicylas . .	298	10 to 30 gr.	
— Sulphas . .	299	30 to 120 gr. for repeated doses; for a single dose, ¼ to ½ oz.	
— — Effervescens	300	60 to 120 gr. for repeated doses; for a single dose, ¼ to ½ oz.	
— Sulphis . .	300	5 to 20 gr.	
— Sulphocarbolas .	301	5 to 15 gr.	
Sodium . . .	301		
— Acetate . .	*400*		
— — Solution of .	*414*		
— Acid Sulphite .	*401*		
— Arsenate . .	291, *400*	$\frac{1}{40}$ to $\frac{1}{10}$ gr.	
— — Solution of .	202	2 to 8 m.	1 gr. of Sodium Arsenate in 110 m. (1 grm. in 100 c.c.)
— Benzoate . .	292	5 to 30 gr.	
— Bicarbonate .	292, *400*	5 to 30 gr.	
— — Lozenge .	368	. . .	3 gr. in each
— Bromide . .	293	5 to 30 gr.	
— Carbonate . .	294, *400*	5 to 30 gr.	
— — Exsiccated .	294	3 to 10 gr.	

NAME	PAGE	DOSE	STRENGTH
Sodium Chloride .	295, *401*		
— Citrotartrate, Effervescing	295	60 to 120 gr.	
— Ethylate, Sol. of	202		
— Hydrogen Sulphite . .	*401*		
— Hydroxide .	*401*		
Sodium Hydroxide, Volumetric Solution of . .	*432*		
Sodium Hypophosphite . .	295	3 to 10 gr.	
— Hyposulphite .	*402*		
— Iodide . .	296	5 to 20 gr.	
— Nitrite . .	297, *401*	1 to 2 gr.	
— Phosphate .	297	30 to 120 gr. for repeated doses; for a single dose, $\frac{1}{4}$ to $\frac{1}{2}$ oz.	
Sodium Phosphate, Effervescing .	298	60 to 120 gr. for repeated doses; for a single dose, $\frac{1}{4}$ to $\frac{1}{2}$ oz.	
— — Solution of .	*414*		
Sodium and Potassium Tartrate .	291, *401*	120 to 240 gr.	
— Salicylate . .	298	10 to 30 gr.	
— Sulphate . .	299, *402*	30 to 120 gr. for repeated doses; for a single dose, $\frac{1}{4}$ to $\frac{1}{2}$ oz.	
Sodium Sulphate, Effervescing .	300	60 to 120 gr. for repeated doses; for a single dose, $\frac{1}{4}$ to $\frac{1}{2}$ oz.	
Sodium Sulphite .	300, *402*	5 to 20 gr.	
— Sulphocarbolate	301	5 to 15 gr.	
— Tests for . .	*427*		
— Thiosulphate .	*402*		
Sodium Thiosulphate, Volumetric Solution of .	*433*		
Soft Paraffin . .	240		
— Soap . . .	284		[(1 grm. in 100 c.c.)
Solution, Arsenical	178	2 to 8 m.	1 gr. of Arsenic in 110 m.
Solution, Fowler's .	178	2 to 8 m.	1 gr. of Arsenic in 110 m. (1 grm. in 100 c.c.)

Name	Page	Dose	Strength
Solution of Albumen	*403*		
— — Ammonia	176, *403*	. . .	10 per cent. of ammonia (gas)
— — — Strong	176, *403*	. . .	32½ per cent. of ammonia (gas)
— — Ammonium Acetate	177, *403*	2 to 6 fl. dr.	
— — — Carbonate	*404*		
— — — Chloride	*404*		
— — — — (Nessler's)	*404*		
— — — Citrate	177, *404*	2 to 6 fl. dr.	
— — — Hydrosulphide	*404*		
— — — Molybdate	*404*		
— — — Oxalate	*404*		
— — — Thiocyanate	*405*		
— — Arsenic, Hydrochloric	178	2 to 8 m.	1 gr. of Arsenic in 110 m. (1 grm. in 100 c.c.)
Solution of Arsenious and Mercuric Iodide	179	5 to 20 m.	1 gr. of Arsenious Iodide and 1 gr. of Mercuric Iodide in 110 m. (1 grm. of each in 100 c.c.)
— — Atropine Sulphate	180	½ to 1 m.	1 gr. of Atropine Sulphate in 110 m. (1 grm. in 100 c.c.)
— — Auric Chloride	*405*		
— — Barium Chloride	*405*		
— — — Hydroxide	*405*		
— — Bismuth and Ammonium Citrate	180	½ to 1 fl. dr.	Equal to 3 gr. of Bismuth Oxide in 1 fl. dr. (5 grm. in 100 c.c.
— — Boric Acid	*405*		
— — Bromine	*406*		
— — Cadmium Iodide	*406*		
— — Calcium Chloride	*406*		
— — — Sulphate	*406*		
— — Calumba, Concentrated	183	½ to 1 fl. dr.	
— — Chiretta, Concentrated	184	½ to 1 fl. dr.	
— — Chlorinated Lime	182		
— — — Soda	201, *406*		
— — Chlorine	*406*		
— — Chromic Acid	175, *407*		
— — Coal Tar	195		
— — Copper Acetate	*407*		

NAME	PAGE	DOSE	STRENGTH
Solution of Copper Ammonio-Sulphate	*407*		
— — Cusparia, Concentrated	184	½ to 1 fl. dr.	
— — Ethyl Nitrite	185	20 to 60 m.	2½ to 3 per cent. of ethyl nitrite
— — Ferric Acetate	186	5 to 15 m.	
— — — Chloride	187, *407*	5 to 15 m.	25 per cent. of Strong Solution
— — — — Strong	187	. . .	22½ gr. of Iron in 110 m. (22·5 grm. in 100 c.c.)
— — — Nitrate	188	5 to 15 m.	
— — — Sulphate	189, *408*		
— — Ferrous Sulphate	*408*		
Solution of Gelatin. See Solution of Isinglass	*408*		
— — Hamamelis	190		
— — Hydrogen Peroxide	191, *408*	½ to 2 fl. dr.	
— — India-rubber	183		
— — Indigo Sulphate	*408*		
— — Iodine	*408*		
— — — Strong	192	. . .	11⅔ per cent. of free Iodine and 7 per cent. of Potassium Iodide
— — — Volumetric	*430*		
— — Isinglass	*408*		
— — Krameria, Concentrated	192	½ to 1 fl. dr.	
— — Lead Acetate	*408*		
— — — Subacetate, Strong	196, *409*		
— — — — Dilute	196	. . .	1 fl. oz. of Strong Sol. of Lead Subacetate in 80 fl. oz.
— — Lime	181, *409*	1 to 4 fl. oz.	Equal to ½ gr. of Lime in 1 fl. oz.
— — — Chlorinated	182		
— — — Saccharated	182	20 to 60 m.	Equal to 1 gr. of Lime in 1 fl. dr., nearly
— — Litmus	*409*		
— — Magnesium Carbonate	192	1 to 2 fl. oz.	
— — — Sulphate	*409*		
— — — Ammonio-Sulphate	*409*		
— — Mercuric Chloride	191	½ to 1 fl. dr.	½ gr. in 1 fl. oz.

Name	Page	Dose	Strength
Solution of Mercuric Chloride. See also Test-Solution .	*416*		
— — — Nitrate, Acid	190		
— — Mercurous Nitrate .	*409*		
— — Morphine Acetate	193	10 to 60 m.	1 gr. in 110 m. (1 grm. in 100 c.c.)
— — — Hydrochloride	194	10 to 60 m.	1 gr. in 110 m. (1 grm. in 100 c.c.)
— — — Tartrate .	194	10 to 60 m.	1 gr. in 110 m. (1 grm. in 100 c.c.)
— — Nitroglycerin	204	½ to 2 m.	1 gr. in 110 m. (1 grm. in 100 c.c.)
— — Phenol-Phthalein	*410*		
— — Picric Acid .	*410*		
— — Platinic Chloride	*410*		
— — Potash . .	197, *413*	10 to 30 m. freely diluted	6¼ gr., nearly, in 110 m. (6·22 grm. in 100 c.c.)
— — Potassio-cupric Tartrate .	*411*		
— — Potassio-mercuric Iodide .	*411*		
— — Potassium Acetate .	*411*		
— — — Acid Tartrate . .	*412*		
— — — Bichromate, Volumetric .	*431*		
— — — Carbonate	*412*		
— — — Chromate	*412*, *435*		
— — — Cyanide .	*412*		
— — — Ferricyanide .	*412*		
— — — Ferrocyanide .	*412*		
— — — Hydroxide	*413*		
— — — — Alcoholic	*413*		
— — — Iodide .	*413*		
— — — Hydroxide	*413*		
— — — Permanganate .	197, *413*	2 to 4 fl. dr.	1 gr. in 110 m. (1 grm. in 100 c.c.)
— — Pyroxylin .	*413*		
— — Quassia, Concentrated	198	½ to 1 fl. dr.	
— — Rhubarb, Concentrated	198	½ to 1 fl. dr.	

Name	Page	Dose	Strength
Solution of Sarsaparilla, Concentrated . .	199	2 to 8 fl. dr.	
— — Senega, Concentrated . .	199	½ to 1 fl. dr.	
— — Senna, Concentrated . .	200	½ to 1 fl. dr.	
— — Serpentary, Concentrated .	201	½ to 2 fl. dr.	
— — Silver Ammonio-Nitrate .	*413*		
— — — Nitrate .	*413*		
— — Soda, Chlorinated . .	201, *406*	10 to 20 m.	
— — Sodium Acetate . .	*414*		
— — Sodium Arsenate . . .	202	2 to 8 m.	1 gr. of Sodium Arsenate in 110 m. (1 grm. in 100 c.c.
— — — Carbonate . . .	*414*		
— — — Ethylate .	202		
— — — Hydroxide	*414*		
— — — — Volumetric	*432*		
— — — Phosphate	*414*		
— — — Sulphate .	*414*		
— — Stannous Chloride	*414*		
— — Strychnine Hydrochloride .	203	2 to 8 m.	1 gr. in 110 m. (1 grm. in 100 c.c.)
— — Sulphuric Acid, Volumetric	*433*		
— — Sulphurous Acid	*415*		
— — Tannic Acid.	*415*		
— — Tartarated Antimony . .	*415*		
— — Tartaric Acid	*415*		
— — Trinitrin .	204	½ to 2 m.	1 gr. in 110 m. (1 grm. in 100 c.c.)
— — Uranium Nitrate	*415*		
Solution, Pancreatic	195		
— Thyroid . .	203	5 to 15 m.	
Solutions, Test .	*403*		
— — Volumetric .	*430*		
Spearmint, Oil of .	230		
— Water . .	43, *443*	½ to 3 m.	
Spermaceti . .	72		
— Ointment . .	371		

Name	Page	Dose	Strength
Spirit of Ammonia, Aromatic	305	20 to 40 m. for repeated doses; for a single dose, 60 to 90 m.	2·17 gr. of ammonia (gas) in 110 m. (2·17 grm. in 100 c.c.)
— — — Fetid	306		2·88 gr. of ammonia (gas) in 110 m. (2·88 grm. in 100 c. c.)
— — Anise	306	5 to 20 m.	
— — Cajuput	307	5 to 20 m.	
— — Camphor	307	5 to 20 m.	
— — Chloric Ether, or — — Chloroform	308	5 to 20 m. for repeated doses; for a single dose, 30 to 40 m.	5 m. of Chloroform in 100 m. (5 c.c. in 100 c.c.)
— — Cinnamon	308	5 to 20 m.	
— — Ether	302	20 to 40 m. for repeated doses; for a single dose, 60 to 90 m.	1 volume of Ether and 2 volumes of Alcohol (90 per cent.) in 3 volumes
— — — Compound	302	20 to 40 m. for repeated doses; for a single dose, 60 to 90 m.	
— — Horseradish, Compound	307	1 to 2 fl. dr.	
— — Juniper	308	20 to 60 m.	
— — Lavender	309	5 to 20 m.	
— — Nitrous Ether	303	20 to 40 m. for repeated doses; for a single dose, 60 to 90 m.	2 to 2½ per cent. of ethyl nitrite; minimum, 1¾ per cent.
— — Nutmeg	310	5 to 20 m.	
— — Peppermint	309	5 to 20 m.	
— — Rosemary	312		
— — Sal Volatile	305		
Spirit, Petroleum	*399*		
Spirit, Rectified	310		
Spiritus Ætheris	302	20 to 40 m. for repeated doses; for a single dose, 60 to 90 m.	1 volume of Ether and 2 volumes of Alcohol (90 per cent.) in 3 volumes
Spirit Compositus	302		
— — Nitrosi	303		2 to 2½ per cent. of ethyl nitrite; minimum, 1¾ per cent.
— Ammoniæ Aromaticus	305		2·17 gr. of ammonia (gas) in 110 m. (2·17 grm. in 100 c.c.)
— — Compositus	305		

Name	Page	Dose	Strength
Spiritus Ammoniæ Fetidus	306	20 to 40 m. for repeated doses; for a single dose, 60 to 90 m.	2·88 gr. of ammonia (gas) in 110 m. (2·88 grm. in 100 c.c.)
— Anisi	306	5 to 20 m.	
— Armoraciæ Compositus	307	1 to 2 fl. dr.	
— Cajuputi	307	5 to 20 m.	
— Camphoræ	307	5 to 20 m.	
— Chloroformi	308	5 to 20 m. for repeated doses; for a single dose, 30 to 40 m.	5 m. in 100 m. (5 c.c. in 100 c.c.)
— Cinnamomi	308	5 to 20 m.	
— Juniperi	308	20 to 60 m.	
— Lavandulæ	309	5 to 20 m.	
— Menthæ Piperitæ	309	5 to 20 m.	
— Myristicæ	310	5 to 20 m.	
— Rectificatus	310	. . .	90 per cent. of ethyl hydroxide by volume; 85·65 per cent. by weight
— Rosmarini	312		
— Vini Gallici	312		
Squill	287	1 to 3 gr.	
— and Ipecacuanha, Pill of	251	4 to 8 gr.	5 per cent. of Opium
— Oxymel of	238	½ to 1 fl. dr.	
— Pill, Compound	254	4 to 8 gr.	1 gr. in 4 gr., nearly
— Syrup of	331	½ to 1 fl. dr.	
— Tincture of	361	5 to 15 m.	
— Vinegar of	3	10 to 30 m.	
Stannous Chloride Solution of	414		
Staphisagriæ Semina	312		
Starch	35		
— Glycerin of	141		
— Mucilage of	398		
Starch, Tests for	428		
Stavesacre Seeds	312		
— Ointment	379		
Storax, Prepared	315		
Stramonii Folia	313		
— Semina	313		
Stramonium Leaves	313		
— Tincture of	362	5 to 15 m.	
Stramonium Seeds	313		
— Extract of	123	¼ to 1 gr.	

NAME	PAGE	DOSE	STRENGTH
Strong Solution of Ammonia	176, *403*	. . .	32$\frac{1}{2}$ per cent. of ammonia (gas)
— — — Ferric Chloride	187	. . .	22$\frac{1}{2}$ gr. of Iron in 110 m. (22·5 grm. in 100 c.c.)
— — — Iodine	192	. . .	11$\frac{2}{3}$ per cent. Iodine and 7 per cent. Potassium Iodide
— — — Lead Oxyacetate	196		
Strophanthi Semina	313		
Strophanthus Seeds	313		
— Extract of	123	$\frac{1}{4}$ to 1 gr.	
— Tincture of	363	5 to 15 m.	
Strychnina	314	$\frac{1}{60}$ to $\frac{1}{15}$ gr.	
Strychninæ Hydrochloridum	314	$\frac{1}{60}$ to $\frac{1}{15}$ gr.	
Strychnine	314	$\frac{1}{60}$ to $\frac{1}{15}$ gr.	
Strychnine, Syrup of Phosphate of Iron with Quinine and	327	$\frac{1}{2}$ to 1 fl. dr.	1 gr. of ferrous phosphate, $\frac{4}{5}$ gr. of Quinine Sulphate, $\frac{1}{32}$ gr. of Strychnine in 1 fl. dr.
Strychnine Hydrochloride	314	$\frac{1}{60}$ to $\frac{1}{15}$ gr.	
— — Solution of	203	2 to 8 m.	1 gr. in 110 m. (1 grm. in 100 c.c.)
Styrax Præparatus	315		
Subchloride of Mercury	150	$\frac{1}{2}$ to 5 gr.	
Sublimed Sulphur	318, *402*	20 to 60 gr.	
Succus Belladonnæ	315	5 to 15 m.	
— Conii	315	1 to 2 fl. dr.	
— Hyoscyami	316	$\frac{1}{2}$ to 1 fl. dr.	
— Limonis	316	. . .	30 to 40 gr. of Citric Acid in 1 fl. oz. (7 to 9 grm. in 100 c.c.)
— Scoparii	316	1 to 2 fl. dr.	
— Taraxaci	316	1 to 2 fl. dr.	
Sucrose	280		
Suet, Prepared	289		
Sugar, Refined	280		
Sulphates, Tests for	*428*		
Sulphides, Tests for	*428*		
Sulphites, Tests for	*428*		
Sulphonal	317	10 to 30 gr.	
Sulphur Iodide	318		
— — Ointment	380		
Sulphur Præcipitatum	317	20 to 60 gr	
— Sublimatum	318	20 to 60 gr.	
Sulphur, Precipitated	317	20 to 60 gr.	
— Lozenge	368	. . .	5 gr. (Precipitated) in each

Name	Page	Dose	Strength
Sulphur, Sublimed	318	20 to 60 gr.	
— Confection of	87	60 to 120 gr.	
— Ointment	380		
Sulphurated Antimony	38	1 to 2 gr.	
Sulphurated Potash	259		
Sulphuretted Hydrogen	*396*		
Sulphuric Acid	19, *402*	. . .	98 per cent. of hydrogen [sulphate
— — Aromatic	20	5 to 20 m.	Acidity = 13·8 per cent. of hydrogen sulphate
— — Diluted	20, *402*	5 to 20 m.	13·65 per cent. of hydrogen [sulphate
— — Volumetric Solution of	*433*		
Sulphuris Iodidum	318		
Sulphurous Acid	21	½ to 1 fl. dr.	
— — Solution of	*415*		
Sumbul Radix	319		
Sumbul Root	319		
— Tincture of	363	½ to 1 fl. dr.	
Suppositoria	319, *444*		
— Acidi Carbolici	319	. . .	1 gr. in each
— — Tannici	320	. . .	3 gr. in each
— Belladonnæ	320	. . .	$\frac{1}{60}$ gr. of alkaloids in each
— Glycerini	321	. . .	70 per cent. of Glycerin
— Iodoformi	321	. . .	3 gr. in each
— Morphinæ	321	. . .	¼ gr. of Morphine Hydrochloride in each
— Plumbi Composita	322	. . .	1 gr. of Opium and 3 gr. of Lead Acetate in each
Suppositories	319, *444*		
— Belladonna	320	. . .	$\frac{1}{60}$ gr. of alkaloids in each
— Carbolic Acid	319	. . .	1 gr. in each
— Glycerin	321	. . .	70 per cent. of Glycerin
— Iodoform	321	. . .	3 gr. in each
— Lead, Compound	322	. . .	1 gr. of Opium and 3 gr. of Lead Acetate in each
— Morphine	321	. . .	¼ gr. of Morphine Hydrochloride in each
— Phenol	319	. . .	1 gr. in each
— Tannic Acid	320	. . .	3 gr. in each
Sweet Almond	34		
Almonds, Compound Powder of	268		
Almond Mixture	214	½ to 1 fl. oz.	
Sweet Spirit of Nitre	303	20 to 40 m. for repeated doses; for a single dose, 60 to 90 m.	2 to 2½ per cent. of ethyl nitrite

Name	Page	Dose	Strength
Symbols of Elements	*435*		
Syrup	322		
Syrup, Aromatic	322	½ to 1 fl. dr.	
— — of Cascara	324	½ to 2 fl. dr.	
Syrup of Balsam of Tolu	332	½ to 1 fl. dr.	
— — Calcium Lactophosphate	323	½ to 1 fl. dr.	
— — Chloral	324	½ to 2 fl. dr.	10 gr. of Chloral in 1 fl. dr.
— — Codeine	325	½ to 2 fl. dr.	¼ gr. of Codeine Phosphate in 1 fl. dr.
— — Ferrous Iodide	325	½ to 1 fl. dr.	1 gr. of ferrous iodide in 11 m.
— — — Phosphate	326	½ to 1 fl. dr.	1 gr. of ferrous phosphate in [1 fl. dr.
— — Ginger	333	½ to 1 fl. dr.	
— — Glucose	327		
— — Hemidesmus	328	½ to 1 fl. dr.	
— — Lemon	328	½ to 1 fl. dr.	
— — Orange	323	½ to 1 fl. dr.	
— — — Flower	323	½ to 1 fl. dr.	
— — Phosphate of Iron with Quinine and Strychnine	327	½ to 1 fl. dr.	1 gr. of ferrous phosphate, $\frac{4}{5}$ gr. of Quinine Sulphate, $\frac{1}{32}$ gr. of Strychnine in [1 fl. dr.
— — Red-Poppy	330, *444*	½ to 1 fl. dr.	
— — Roses	330	½ to 1 fl. dr.	
— — Rhubarb	329	½ to 2 fl. dr.	
— — Senna	331	½ to 2 fl. dr.	
— — Squill	331	½ to 1 fl. dr.	
— — Virginian Prune	329	½ to 1 fl. dr.	
Syrupus	322		
— Aromaticus	322	½ to 1 fl. dr.	
— Aurantii	323	½ to 1 fl. dr.	
— — Floris	323	½ to 1 fl. dr.	
— Calcii Lactophosphatis	323	½ to 1 fl. dr.	
— Cascaræ Aromaticus	324	½ to 2 fl. dr.	
— Chloral	324	½ to 2 fl. dr.	10 gr. Chloral Hydrate in [1 fl. dr.
— Codeinæ	325	½ to 2 fl. dr.	¼ gr. of Codeine Phosphate in 1 fl. dr.
— Ferri Iodidi	325	½ to 1 fl. dr.	1 gr. of ferrous iodide in 11 m.
— — Phosphatis	326	½ to 1 fl. dr.	1 gr. of ferrous phosphate in 1 fl. dr.
— — — cum Quinina et Strychnina	327	½ to 1 fl. dr.	1 gr. of ferrous phosphate, $\frac{4}{5}$ gr. of Quinine Sulphate, $\frac{1}{32}$ gr. of Strychnine in [1 fl. dr.
— Glucosi	327		
— Hemidesmi	328	½ to 1 fl. dr.	
— Limonis	328	½ to 1 fl. dr.	
—Pruni Virginianæ	329	½ to 1 fl. dr.	
— Rhei	329	½ to 2 fl. dr.	

NAME	PAGE	DOSE	STRENGTH
Syrupus Rhœados	330, *444*	$\frac{1}{2}$ to 1 fl. dr.	
— Rosæ	330	$\frac{1}{2}$ to 1 fl. dr.	
— Scillæ	331	$\frac{1}{2}$ to 1 fl. dr.	
— Sennæ	331	$\frac{1}{2}$ to 2 fl. dr.	
— Tolutanus	332	$\frac{1}{2}$ to 1 fl. dr.	
— Zingiberis	333	$\frac{1}{2}$ to 1 fl. dr.	
TABELLÆ Trinitrini	333	1 to 2 tablets	$\frac{1}{100}$ gr. in each
Tablets of Nitroglycerin	333	1 to 2 tablets	$\frac{1}{100}$ gr. in each
Talc, Powdered	*400*		
Tamarinds	333		
Tamarindus	333		
Tannic Acid	21	2 to 5 gr.	
— — Glycerin of	140		1 oz. in 5 fl. oz.
— — Lozenge	365		$\frac{1}{2}$ gr. in each
— — Solution of	*415*		
— — Suppositories	320		3 gr. in each
Tar	255		
— Ointment	378		
Tar, Coal, Prepared	255		
— — Solution of	195		
Taraxaci Radix	334		
Taraxacum Root	334		
— Extract of	124	5 to 15 gr.	
— Juice of	316	1 to 2 fl. dr.	
— Liquid Extract	124	$\frac{1}{2}$ to 2 fl. dr.	
Tartar Emetic, or Tartarated Antimony	39	$\frac{1}{24}$ to $\frac{1}{8}$ gr. as a diaphoretic; as an emetic, 1 to 2 gr.	
— — Solution of	*415*		
Antimonial Wine	383	Diaphoretic, 10 to 30 m.; emetic, 2 to 4 fl. dr.	2 gr. of Tartarated Antimony in 1 fl. oz
Tartarated Iron	133	5 to 10 gr.	
Tartarated Soda	291	120 to 240 gr.	
— —Powder, Effervescent	273		
Tartaric Acid	22, *402*	5 to 20 gr.	
— — Solution of	*415*		
Tartrate of Potassium and Sodium	291, *401*	120 to 240 gr.	
Tartrates, Tests for	*428*		
Tellurium, Tests for	*427*		

NAME	PAGE	DOSE	STRENGTH
Terebene . .	334	5 to 15 m.	
Terebenum . .	334	5 to 15 m.	
Terebinthina Canadensis . .	335		
Test Papers . .	*402*		
Test Solution of Ferric Chloride .	*415*		
— — — Mercuric Chloride . .	*416*		
Test Solutions . .	*403*		
— — for Volumetric Estimations . . .	*430*		
Tests for Substances mentioned in the Text of the Pharmacopœia . .	*416*		
Theine . . .	58	1 to 5 gr.	
Thermometric Memoranda	*436*		
Theobroma, Oil of .	235		
Thiocyanate, Ammonium . .	*393*		
Thiosulphate, Sodium . . .	*402*		
Thiosulphates, Tests for	*429*		
Thus Americanum	335		
Thymol . . .	335	$\frac{1}{2}$ to 2 gr.	
Thyroid, Dry . .	336	3 to 10 gr.	
— Solution . .	203	5 to 15 m.	
Thyroideum Siccum	336	3 to 10 gr.	
Tin . . .	*402*		
Tin, Tests for .	*429*		
Tinctura Aconiti .	336	5 to 15 m.; if very frequently repeated, 2 to 5 m.	1 oz. of Root in 20 fl. oz.
— Aloes . .	337	$\frac{1}{2}$ to 1 fl. dr. for repeated doses; for a single dose, $1\frac{1}{2}$ to 2 fl. dr.	1 oz. of Extract of Barbados Aloes in 40 fl. oz.
Tinctura Arnicæ .	337		
— Asafetidæ . .	337	$\frac{1}{2}$ to 1 fl. dr.	
— Aurantii . .	338	$\frac{1}{2}$ to 1 fl. dr.	
— Belladonnæ .	338	5 to 15 m.	$\frac{1}{20}$ gr. of alkaloids in 110 m. (0·05 grm. in 100 c.c.)

NAME	PAGE	DOSE	STRENGTH
Tinctura Benzoini Composita	339	$\frac{1}{2}$ to 1 fl. dr.	
— Buchu	339	$\frac{1}{2}$ to 1 fl. dr.	
— Calumbæ	339	$\frac{1}{2}$ to 1 fl. dr.	
— Camphoræ Composita	340	$\frac{1}{2}$ to 1 fl. dr.	1 fl. dr. equals $\frac{1}{4}$ gr. of Opium
— Cannabis Indicæ	340	5 to 15 m.	5 gr. of Extract in 110 m. (5 grm. in 100 c.c.)
— Cantharidis	341	5 to 15 m.; if frequently repeated, 2 to 5 m.	$1\frac{1}{4}$ gr. in 110 m. (1·25 grm. in 100 c.c.)
— Capsici	341	5 to 15 m.	
— Cardamomi Composita	341	$\frac{1}{2}$ to 1 fl. dr.	
— Cascarillæ	342	$\frac{1}{2}$ to 1 fl. dr.	
— Catechu	342	$\frac{1}{2}$ to 1 fl. dr.	
— Chiratæ	342	$\frac{1}{2}$ to 1 fl. dr.	
— Chloroformi et Morphinæ Composita	343	5 to 15 m.	$\frac{3}{4}$ m. of Chloroform, $\frac{1}{2}$ m. of Diluted Hydrocyanic Acid, and $\frac{1}{11}$ gr. of Morphine Hydrochloride in 10 m.
— Cimicifugæ	344	$\frac{1}{2}$ to 1 fl. dr.	
— Cinchonæ	344	$\frac{1}{2}$ to 1 fl. dr.	1 gr. of alkaloids in 110 m. (1 grm. in 100 c.c.)
— — Composita	345	$\frac{1}{2}$ to 1 fl. dr.	$\frac{1}{2}$ gr. of alkaloids in 110 m. (0·5 grm. in 100 c.c.)
— Cinnamomi	345	$\frac{1}{2}$ to 1 fl. dr.	
— Cocci	346	5 to 15 m.	
— Colchici Seminum	346	5 to 15 m.	
— Conii	346	$\frac{1}{2}$ to 1 fl. dr.	
— Croci	347	5 to 15 m.	
— Cubebæ	347	$\frac{1}{2}$ to 1 fl. dr.	
— Digitalis	347	5 to 15 m.	
— Ergotæ Ammoniata	348	$\frac{1}{2}$ to 1 fl. dr.	25 gr. of Ergot in 110 m. (25 grm. in 100 c.c.)
— Ferri Perchloridi	348	5 to 15 m.	25 per cent. of Strong Solution of Ferric Chloride
— Gelsemii	348	5 to 15 m.	
— Gentianæ Composita	349	$\frac{1}{2}$ to 1 fl. dr.	
— Guaiaci Ammoniata	349	$\frac{1}{2}$ to 1 fl. dr.	
— Hamamelidis	350	$\frac{1}{2}$ to 1 fl. dr.	
— Hydrastis	350	$\frac{1}{2}$ to 1 fl. dr.	
— Hyoscyami	350	$\frac{1}{2}$ to 1 fl. dr.	
— Iodi	351	2 to 5 m.	$2\frac{1}{2}$ gr. of Potassium Iodide and $2\frac{1}{2}$ gr. of added Iodine in 110 m. (2·5 grm. of each in 100 c.c.)

Name	Page	Dose	Strength
Tinctura Jaborandi	351	½ to 1 fl. dr.	
— Jalapæ	352	½ to 1 fl. dr.	1½ gr. of Jalap Resin in 110 m. (1·5 grm. in 100 c.c.)
— Kino	352	½ to 1 fl. dr.	
— Krameriæ	353	½ to 1 fl. dr.	
— Lavandulæ Composita	353	½ to 1 fl. dr.	
— Limonis	354	½ to 1 fl. dr.	
— Lobeliæ Ætherea	354	5 to 15 m.	
— Lupuli	354	½ to 1 fl. dr.	
— Myrrhæ	355	½ to 1 fl. dr.	
— Nucis Vomicæ	355	5 to 15 m.	¼ gr. of Strychnine in 110 m. (0·25 grm. in 100 c.c.)
— Opii	356	5 to 15 m. for repeated doses; for a single dose, 20 to 30 m.	¾ gr. of anhydrous morphine in 110 m. (0·75 grm. in 100 c.c.); = 1 gr. of Opium in 15 m.
— — Ammoniata	358	½ to 1 fl. dr.	Nearly 5 gr. of Opium in 1 fl. oz.
— Podophylli	358	5 to 15 m.	3⅔ gr. of the Resin in 110 m. (3·65 grm. in 100 c.c.)
— Pruni Virginianæ	359	½ to 1 fl. dr.	
— Pyrethri	359		
— Quassiæ	359	½ to 1 fl. dr.	
— Quillaiæ	360	½ to 1 fl. dr.	
— Quininæ	360	½ to 1 fl. dr.	2 gr. of Quin. Hydrochlor. in 110 m. (2 grm. in 100 c.c.)
— — Ammoniata	360	½ to 1 fl. dr.	2 gr. of Quin. Sulphate in 110 m. (2 grm. in 100 c.c.)
— Rhei Composita	361	½ to 1 fl. dr. for repeated doses; for a single dose, 2 to 4 fl. dr.	110 m. equal 10 gr. of Rhubarb Root
— Scillæ	361	5 to 15 m.	
— Senegæ	361	½ to 1 fl. dr.	
— Sennæ Composita	362	½ to 1 fl. dr. for repeated doses; for a single dose, 2 to 4 fl. dr.	
— Serpentariæ	362	½ to 1 fl. dr.	
— Stramonii	362	5 to 15 m.	
— Strophanthi	363	5 to 15 m.	2½ gr. in 110 m. (2·5 grm. in 100 c.c.)
— Sumbul	363	½ to 1 fl. dr.	
— Tolutana	363	½ to 1 fl. dr.	
— Valerianæ Ammoniata	364	½ to 1 fl. dr.	
— Zingiberis	364	½ to 1 fl. dr.	

Name	Page	Dose	Strength
Tincture of Aconite	336	5 to 15 m.; if very frequently repeated, 2 to 5 m.	1 oz. of Aconite Root in 20 fl. oz.
— — Actæa Racemosa . . .	344	½ to 1 fl. dr.	
— — Aloes . .	337	½ to 1 fl. dr. for repeated doses; for a single dose, 1½ to 2 fl. dr.	1 oz. of Extract of Barbados Aloes in 40 fl. oz.
— — Arnica . .	337		
— — Asafetida .	337	½ to 1 fl. dr.	
— — Balsam of Tolu	363	½ to 1 fl. dr.	
— — Belladonna .	338	5 to 15 m.	$\frac{1}{20}$ gr. of alkaloids in 110 m. (0·05 grm. in 100 c.c.)
— — Benzoin, Compound	339	½ to 1 fl. dr.	
— — Buchu . .	339	½ to 1 fl. dr.	
— — Calumba .	339	½ to 1 fl. dr.	
— — Camphor, Compound	340	½ to 1 fl. dr.	1 fl. dr. equals ¼ gr. of Opium
— — Cantharides .	341	5 to 15 m.; if frequently repeated, 2 to 5 m.	
— — Capsicum .	341	5 to 15 m.	
— — Cardamoms, Compound	341	½ to 1 fl. dr.	
— — Cascarilla .	342	½ to 1 fl. dr.	
— — Catechu .	342	½ to 1 fl. dr.	
— — Chiretta .	342	½ to 1 fl. dr.	
— — Chloroform and Morphine, Compound . .	343	5 to 15 m.	¾ m. of Chloroform, ½ m. of Diluted Hydrocyanic Acid, and $\frac{1}{11}$ gr. of Morphine Hydrochloride in 10 m.
— — Cimicifuga .	344	½ to 1 fl. dr.	
— — Cinchona .	344	½ to 1 fl. dr.	1 gr. of alkaloids in 110 m. (1 grm. in 100 c.c.)
— — — Compound	345	½ to 1 fl. dr.	½ gr. of alkaloids in 110 m. (0·5 grm. in 100 c.c.)
— — Cinnamon .	345	½ to 1 fl. dr.	
— — Cochineal .	346	5 to 15 m.	
— — Colchicum Seeds	346	5 to 15 m.	
— — Conium .	346	½ to 1 fl. dr.	
— — Cubebs . .	347	½ to 1 fl. dr.	
— — Digitalis .	347	5 to 15 m.	
— — Ergot, Ammoniated . .	348	½ to 1 fl. dr.	25 gr. of Ergot in 110 m. (25 grm. in 100 c.c.)

NAME	PAGE	DOSE	STRENGTH
Tincture of Ferric Chloride	348	5 to 15 m.	25 per cent. of Strong Solution of Ferric Chloride
— — Gelsemium	348	5 to 15 m.	
— — Gentian, Compound	349	½ to 1 fl. dr.	
— — Ginger	364	½ to 1 fl. dr.	
— — Guaiacum, Ammoniated,	349	½ to 1 fl. dr.	
— — Hamamelis	350	½ to 1 fl. dr.	
— — Hops	354	½ to 1 fl. dr.	
— — Hydrastis	350	½ to 1 fl. dr.	
— — Hyoscyamus	350	½ to 1 fl. dr.	
— — Indian Hemp	340	5 to 15 m.	5 gr. of Extract in 110 m. (5 grm. in 100 c.c.)
— — Iodine	351	2 to 5 m.	2½ gr. of Potassium Iodide and 2½ gr. of added Iodine in 110 m. (2·5 grm. of each in 100 c.c.)
— — Jaborandi	351	½ to 1 fl. dr.	
— — Jalap	352	½ to 1 fl. dr.	1½ gr. of Jalap Resin in 110 m. (1·5 grm. in 100 c.c.)
— — Kino	352	½ to 1 fl. dr.	
— — Krameria	353	½ to 1 fl. dr.	
— — Lavender, Compound	353	½ to 1 fl. dr.	
— — Lemon	354	½ to 1 fl. dr.	
— — Lobelia, Ethereal	354	5 to 15 m.	
— — Myrrh	355	½ to 1 fl. dr.	
— — Nux Vomica	355	5 to 15 m.	¼ gr. of Strychnine in 110 m. (0·25 grm. in 100 c.c.)
— — Opium	356	5 to 15 m. for repeated doses; for a single dose, 20 to 30 m.	¾ gr. of anhydrous morphine in 110 m. (0·75 grm. in 100 c.c.); = 1 gr. of Opium in 15 m.
— — — Ammoniated	358	½ to 1 fl. dr.	Nearly 5 gr. of Opium in 1 fl. oz.
— — Orange	338	½ to 1 fl. dr.	
— — Podophyllum	358	5 to 15 m.	3⅔ gr. of the Resin in 110 m. (3·65 grm. in 100 c.c.)
— — Pyrethrum	359		
— — Quassia	359	½ to 1 fl. dr.	
— — Quillaia	360	½ to 1 fl. dr.	
— — Quinine	360	½ to 1 fl. dr.	2 gr. of Quinine Hydrochloride in 110 m. (2 grm. in 100 c.c.)
— — — Ammoniated	360	½ to 1 fl. dr.	2 gr. of Quinine Sulphate in 110 m. (2 grm. in 100 c.c.)

NAME	PAGE	DOSE	STRENGTH
Tincture of Rhubarb, Compound	361	½ to 1 fl. dr. for repeated doses; for a single dose, 2 to 4 fl. dr.	110 m. equal 10 gr. of Rhubarb Root
— — Senega . .	361	½ to 1 fl. dr.	
— — Senna, Compound . .	362	½ to 1 fl. dr. for repeated doses; for a single dose, 2 to 4 fl. dr.	
— — Serpentary .	362	½ to 1 fl. dr.	
— — Squill . .	361	5 to 15 m.	
— — Stramonium .	362	5 to 15 m.	
— — Strophanthus	363	5 to 15 m.	2½ gr. in 110 m. (2·5 grm. in 100 c.c.)
— — Sumbul .	363	½ to 1 fl. dr.	
— — Tolu . .	363	½ to 1 fl. dr.	
— — Valerian, Ammoniated	364	½ to 1 fl. dr.	
— — Virginian Prune	359	½ to 1 fl. dr.	
Tinctures, Processes for . .	*440*		
Tinnevelly Senna .	288		
Tolu, Balsam of .	51	5 to 15 gr.	
— Basis for Lozenges	*442*		
— Syrup of . .	332	½ to 1 fl. dr.	
— Tincture of .	363	½ to 1 fl. dr.	
Tops, Broom . .	287		
Toughened Caustic	45	. . .	95 per cent. of Silver Nitrate
Tragacanth . .	365		
— Glycerin of .	143		
— Mucilage of .	220		
— Powder of, Compound . .	273	20 to 60 gr.	
Tragacantha . .	365		
Trinitrin, Sol. of .	204	½ to 2 m. .	1 gr. in 110 m. (1 grm. in 100 c.c.)
— Tablets . .	333	1 or 2 tablets	$\frac{1}{100}$ gr. in each
Trinitroglycerin .	204, 333		
Trochiscus Acidi Benzoici . .	365	. . .	½ gr. in each
— — Carbolici .	365	. . .	1 gr. in each
— — Tannici .	365	. . .	½ gr. in each
— Bismuthi Compositus . .	366	. . .	2 gr. of Bismuth Oxycarb., 2 gr. of Magnesium Carb., and 4 gr. of Calcium Carb. in each
— Catechu . .	366	. . .	1 gr. in each
— Eucalypti Gummi	366	. . .	1 gr. in each

Name	Page	Dose	Strength
Trochiscus Ferri Redacti	366	. . .	1 gr. in each
— Guaiaci Resinæ	366	. . .	3 gr. in each
— Ipecacuanhæ	367	. . .	$\frac{1}{4}$ gr. in each
— Krameriæ	367	. . .	1 gr. of Extract in each
— — et Cocainæ	367	. . .	$\frac{1}{20}$ gr. of Cocaine Hydrochloride in each
— Morphinæ	367	. . .	$\frac{1}{36}$ gr. of Morphine Hydrochloride in each
— — et Ipecacuanhæ	367	. . .	$\frac{1}{36}$ gr. of Morphine Hydrochl. and $\frac{1}{12}$ gr. of Ipecac. in each
— Potas. Chloratis	368	. . .	3 gr. in each
— Santonini	368	. . .	1 gr. in each
— Sodii Bicarbonatis	368	. . .	3 gr. in each
— Sulphuris	368	. . .	5 gr. (Precipitated) in each
Turmeric	*402*		
Turpentine, Oil of	234, *398*	2 to 10 m.; as an anthelmintic, 3 to 4 fl. dr.	
— Liniment of	174		
— — — and Acetic Acid	174		
UNGUENTA	*444*		
Unguentum Acidi Borici	369		
— — Carbolici	369	. . .	4 per cent.
— — Salicylici	369	. . .	2 per cent.
— Aconitinæ	369	. . .	2 per cent.
— Aquæ Rosæ	370		
— Atropinæ	370	. . .	2 per cent.
— Belladonnæ	370	. . .	0·6 per cent. of alkaloids
— Cantharidis	371	. . .	10 per cent., nearly
— Capsici	371		
— Cetacei	371		
— Chrysarobini	372	. . .	4 per cent.
— Cocainæ	372	. . .	4 per cent.
— Conii	372		
— Creosoti	372	. . .	10 per cent.
— Eucalypti	373		
— Gallæ	373		
— — cum Opio	373	. . .	$7\frac{1}{2}$ per cent. of Opium
— Glycerini Plumbi Subacetatis	373		
— Hamamelidis	374		
— Hydrargyri	374	. . .	$48\frac{1}{2}$ per cent. of Mercury
— — Ammoniati	374	. . .	10 per cent.
— — Compositum	374	. . .	$19\frac{1}{2}$ per cent. of Mercury
— — Iodidi Rubri	375	. . .	4 per cent.

NAME	PAGE	DOSE	STRENGTH
Unguentum Hydrargyri Nitratis	375		
— — — Dilutum .	376	. . .	20 per cent. of the stronger Mercuric Nitrate Ointment
— — Oleatis . .	376		
— — Oxidi Flavi .	376	. . .	2 per cent.
— — — Rubri .	376	. . .	10 per cent.
— — Subchloridi .	377	. . .	10 per cent.
— Iodi . . .	377	. . .	4 per cent. of Potassium Iodide and 4 per cent. of added Iodine
— Iodoformi . .	377	. . .	10 per cent.
— Paraffini . .	377		
— Picis Liquidæ .	378		
— Plumbi Acetatis	378		
— — Carbonatis .	378		
— — Iodidi . .	378		
— Potassii Iodidi .	379		
— Resinæ . .	379		
— Staphisagriæ .	379		
— Sulphuris . .	380		
— — Iodidi . .	380	. . .	4 per cent.
— Veratrinæ . .	380	. . .	2 per cent.
— Zinci . .	380		
— — Oleatis . .	381		
Uranium Nitrate .	*403*		
— — Solution of .	*415*		
Uvæ Ursi Folia .	381		
VALERIAN Rhizome	381		
— Tincture of, Ammoniated .	364	½ to 1 fl. dr.	
Valerianæ Rhizoma	381		
Valerianate, Zinc .	388	1 to 3 gr.	
Veratrina . .	382		
Veratrine . .	382		
— Ointment . .	380	. . .	2 per cent.
Vinegar of Cantharides . . .	2		
— — Ipecacuanha	3	10 to 30 m.	
— — Squill . .	3	10 to 30 m.	
Vinum Antimoniale	383	10 to 30 m.; as an emetic, 2 to 4 fl. dr.	2 gr. of Tartarated Antimony in 1 fl. oz.
— Aurantii . .	384		
— Colchici . .	384	10 to 30 m.	
— Ferri . .	384	1 to 4 fl. dr.	
— — Citratis .	385	1 to 4 fl. dr.	

NAME	PAGE	DOSE	STRENGTH
Vinum Ipecacuanhæ	385	10 to 30 m. as expectorant; as an emetic, 4 to 6 fl. dr.	5 m. of Liquid Extract in 100 m. (5 c.c. in 100 c.c.)
— Quininæ . .	385	$\frac{1}{2}$ to 1 fl. oz.	1 gr. of Quinine Hydrochloride in 1 fl. oz.
— Xericum . .	386		
Virginian Prune Bark . . .	267		
— — Syrup of .	329	$\frac{1}{2}$ to 1 fl. dr.	
— — Tincture of .	359	$\frac{1}{2}$ to 1 fl. dr.	
Volatile Oil of Mustard . .	234		
Volumetric Estimations, Test Solutions for .	*430*		
Volumetric Solution of Iodine .	*430*		
— — — Potassium Bichromate .	*431*		
— — — — Hydroxide	*433*		
— — — Silver Nitrate . . .	*432*		
— — — Sodium Hydroxide . .	*432*		
— — — — Thiosulphate . .	*433*		
— — — Sulphuric Acid . . .	*433*		
WARMING Plaster .	97		
Water . . .	40, *403*		
Water, Anise . .	40, *443*		
— Camphor . .	41		
— Caraway . .	41, *443*		
— Cherry-Laurel .	43	$\frac{1}{2}$ to 2 fl. dr.	$\frac{1}{10}$ per cent. of hydrogen [cyanide
— Chloroform .	41	. . .	$\frac{1}{4}$ m. in 100 m. (0·25 c.c. in [100 c.c.)
— Cinnamon .	42, *443*		
— Dill . . .	40, *443*		
— Distilled . .	42		
— Elder Flower .	44		
— Fennel . .	42, *443*		
— Lime . .	181	1 to 4 fl. oz.	$\frac{1}{2}$ gr. of Lime in 1 fl. oz.
— Morphinated .	*398*		
— Orange Flower .	40		
— Peppermint .	43, *443*		
— Pimento . .	43, *443*		
— Rose . . .	44		

Name	Page	Dose	Strength
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Mass . .	*438*		
Capacity . .	*438*		
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Volume to Mass	*438*		
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Mass . .	*438*		
Capacity . .	*438*		
Length . .	*438*		
Cubic to Capacity	*438*		
Metric to Impl.	*439*		
White Arsenic .	5	$\frac{1}{60}$ to $\frac{1}{15}$ gr.	
— Beeswax . .	71		
— Mustard Seed .	290		
— Precipitate .	151		
— — Ointment .	374	. . .	10 per cent.
Wine, Antimonial .	383	10 to 30 m.; as an emetic 2 to 4 fl. dr.	2 gr. of Tartarated Antimony in 1 fl. oz.
— Colchicum .	384	10 to 30 m.	
— Ipecacuanha .	385	10 to 30 m. as an expectorant; as an emetic, 4 to 6 fl. dr.	5 m. of Liquid Extract in 100 m. (5 c.c. in 100 c.c.)
— Iron . . .	384	1 to 4 fl. dr.	
— — Citrate .	385	1 to 4 fl. dr.	
— Orange . .	384		
— Quinine . .	385	$\frac{1}{2}$ to 1 fl. oz.	1 gr. of Quinine Hydrochloride in 1 fl. oz.
Witch Hazel Bark .	145		
— — Leaves .	146		
Wood Charcoal .	66	60 to 120 gr.	
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— — Hydrous .	25		
YELLOW Beeswax .	71		
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— Mercuric Oxide .	149		
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ZANZIBAR Aloes .	28	2 to 5 gr.	
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Name	Page	Dose	Strength
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Zinc Carbonate .	386		
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— — Solution of .	204		
Zinc Oleate Ointment . . .	381		
Zinc Oxide . .	387	3 to 10 gr.	
— Ointment . .	380		
Zinc Sulphate .	388	1 to 3 gr. as a tonic ; as an emetic, 10 to 30 gr.	
Zinc Sulphocarbolate . .	388		
Zinc Valerianate .	388	1 to 3 gr.	
Zinc, Tests for .	*429*		
Zinci Acetas .	386	1 to 2 gr.	
— Carbonas . .	386		
— Chloridum .	387		
— Oxidum . .	387	3 to 10 gr.	
— Sulphas . .	388	1 to 3 gr. as a tonic ; as an emetic, 10 to 30 gr.	
— Sulphocarbolas	388		
— Valerianas .	388	1 to 3 gr.	
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